

Company Kerr-McGee Oil & Gas Onshore, L.P.
Well Grenemyer 36C-3HZ
Field Wattenberg
County Weld
State Colorado

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Location: API #: 05-123-38417
SWSE: 1782' FSL & 2280' FEL
SEC 3 TWP 1N RGE 87W
Permanent Datum Ground Level Elevation 5052'
Log Measured From Kelly Bushing (16 FT)
Drilling Measured From Kelly Bushing
Other Services
Gauge Ring
CIL
Elevation
K.B. 5068'
D.F. 5067'
G.L. 5052'

Date	2-April-2014						
Run Number	Two						
Depth Driller	16020'						
Depth Logger	7183'						
Bottom Logged Interval	7831'						
Top Log Interval	Surface						
Open Hole Size	8.750"						
Type Fluid	Water						
Density / Viscosity	8.4 lbm/gal						
Max. Recorded Temp.	228						
Estimated Cement Top	120'						
Time Well Ready	ROA						
Time Logger on Bottom	1430						
Equipment Number	HD 0311						
Location	Fort Lupton, CO.						
Recorded By	Z.Fisher						
Witnessed By	K.Evers						
Run Number	Borehole Record			Tubing Record			
	Bit	From	To	Size	Weight	From	To
Casing Record	Size (in)	Wgt (lbs/Ft)		Grade	Top	Bottom	
Surface Casing	9-5/8"	36#		J-55	Surface	1093'	
Intermediate #1	7"	26#		HCP-110 LTC	Surface	7797'	
Intermediate #2							
Liner	4-1/2"	11.6#		P-110	7109'	16020'	



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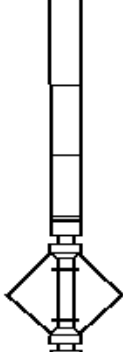
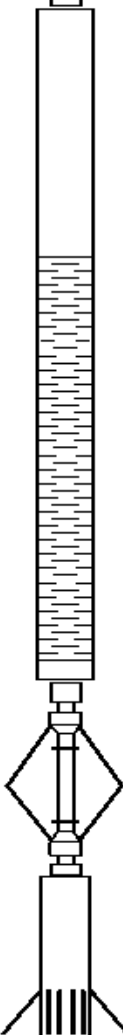
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Radial Cement Bond Log - Casing Inspection Log is first recorded log in hole.
Log correlated to reported casing tally at top of liner @ 7109 FT
RCBL-CIL ran at 2800 PSI surface induced pressure.
Estimated Cement Top recorded at 120 FT
Found cement in junk basket when gauge ring was ran.

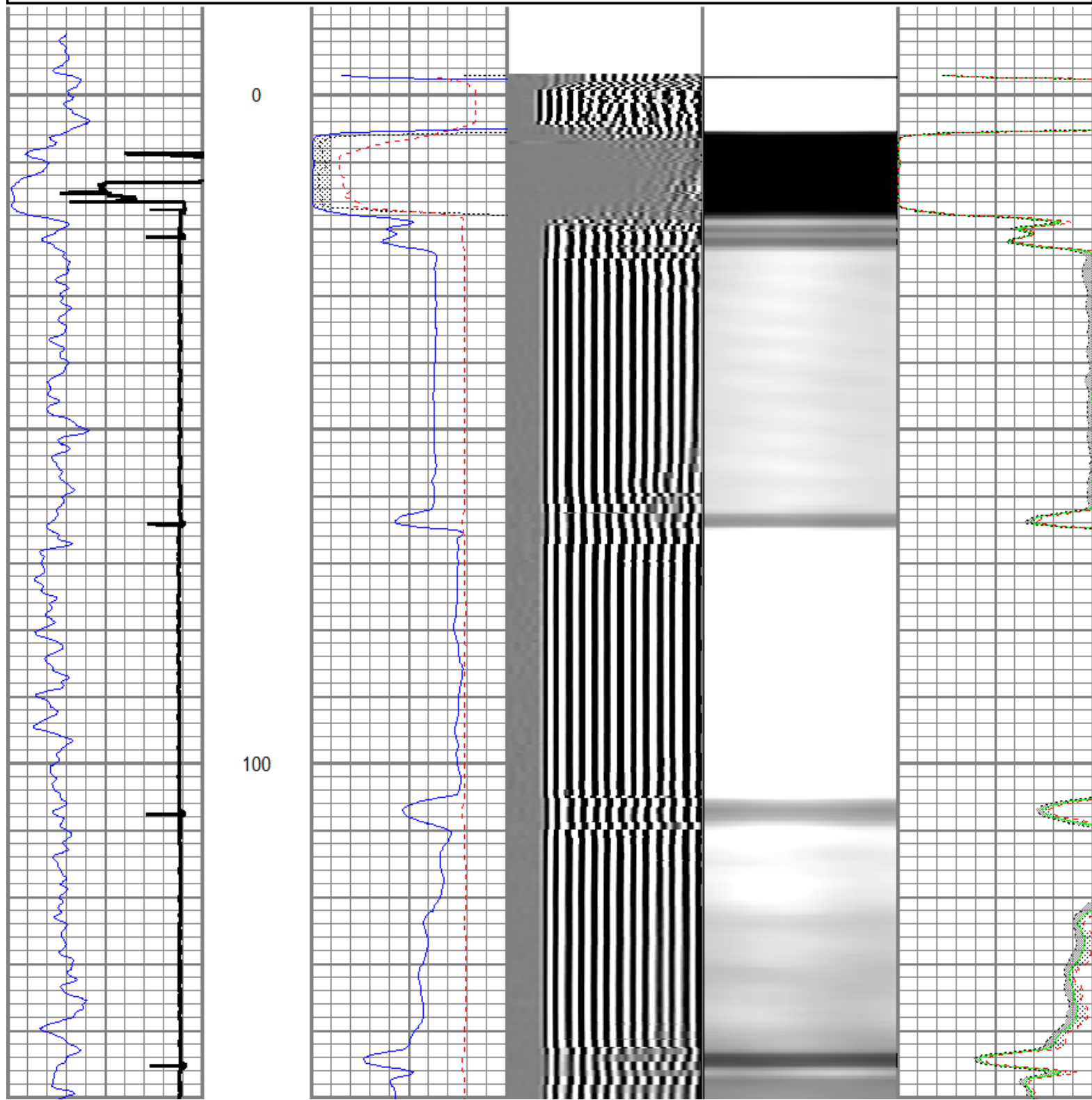
Thank you for choosing FMC Technologies Completion Services!!

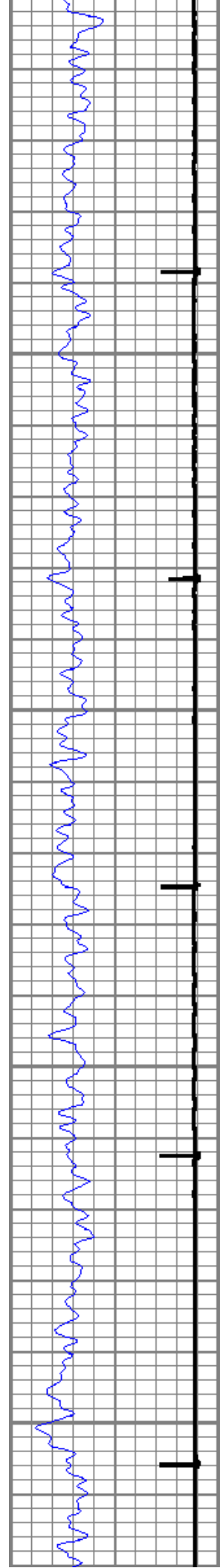
Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			AES 1-7/16" Cablehead	1.08	1.44	1.00
			AGS-001 (219135)	0.21	1.69	1.00

GR	22.30		Adaptor GO to Sondex	1.58	1.69	6.50
			XTU-002 (051219) Crossover Ultrawire Toolbus to Ultralink			
			PGR-020 (10013899) Production Gamma Ray	1.93	1.69	9.50
			PRC-001 (000001) Production Roller Centraliser (3 Arm)	1.92	1.69	7.00
WVF3FT	15.54					
WVFS1	15.54		RBT-004 (10012639in7) Radial Bond Tool (UW 3 1/8)	9.47	3.13	140.00
WVFS2	15.54					
WVFS3	15.54					
WVFS4	15.54					
WVFS5	15.54					
WVFS6	15.54					
WVFS7	15.54					
WVFS8	15.54					
CBLTEMP	15.54					
CBLROT	15.54					
WVF5FT	14.54					
			PRC-057 (1038) Production Roller Centraliser (4 Arm)	2.74	2.75	32.00
MIT	5.47		MIT-027 (10012912) Multifinger Imaging Tool (UW 40F)	4.54	2.75	61.10
			PRC-034 (000006) Production Roller Centraliser (4 Arm)	2.91	1.69	13.00
			BUL-006 (218707) Bullnose Terminator	0.22	1.69	1.20
Dataset: anadarko_grenemeyer 36c-3hz_rcbl cil_2-apr-2014.db: field/well/run1/main7 Total Length: 26.60 ft Total Weight: 272.30 lb O.D. 3.13 in						

Database File: anadarko_grenemeyer 36c-3hz_rcbl cil_2-apr-2014.db
 Dataset Pathname: main7
 Presentation Format: rbt007
 Dataset Creation: Wed Apr 02 09:51:03 2014 by Log Sondex V7.03
 Charted by: Depth in Feet scaled 1:240

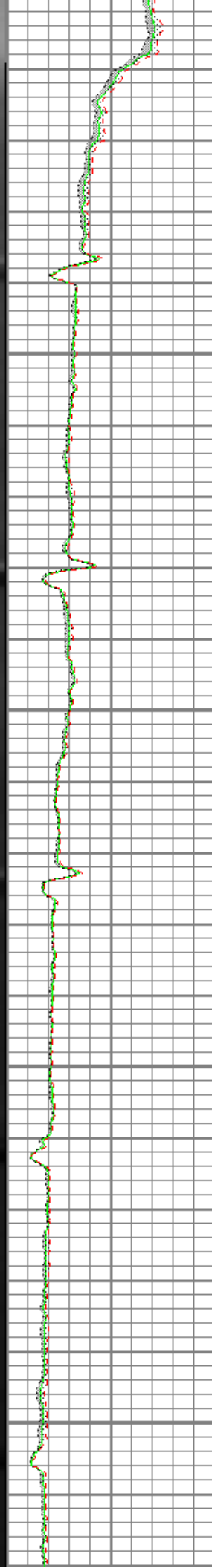
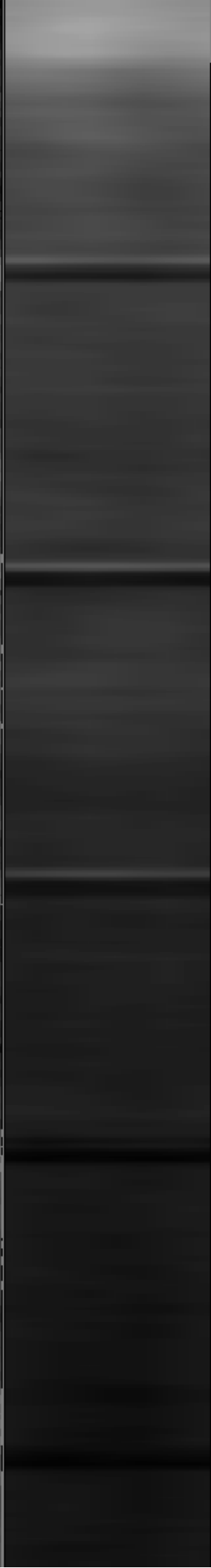
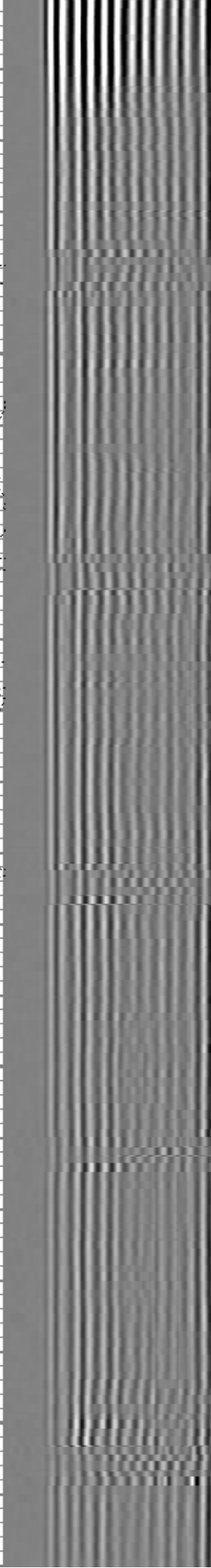
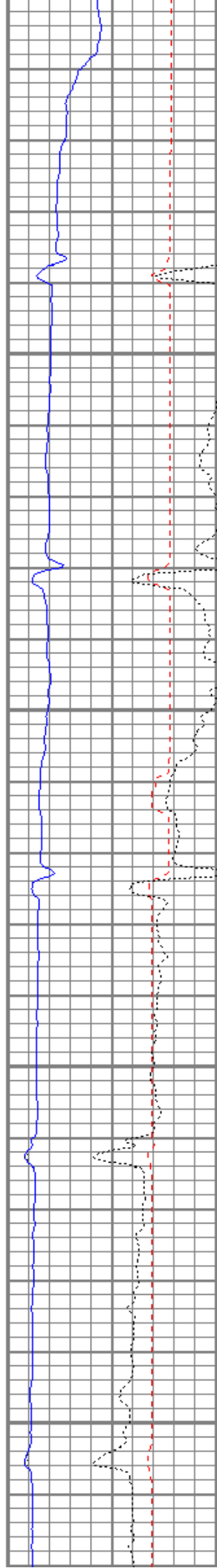
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200	10 110	0 100
Collar Locator	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
	3' Travel Time			Maximum Amplitude
	650 (usec) 150			0 100

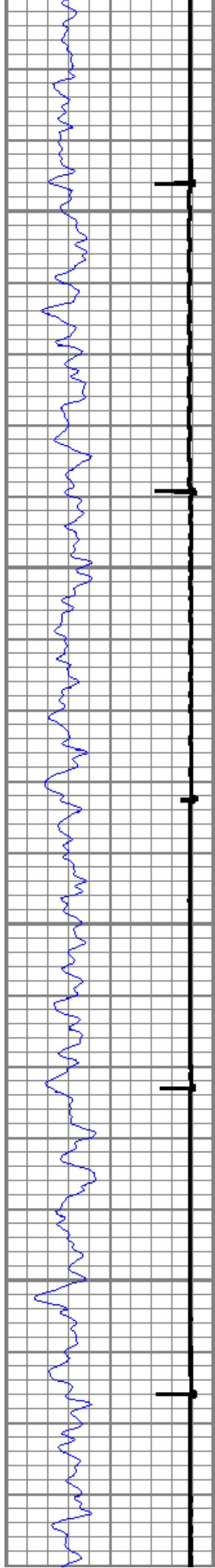




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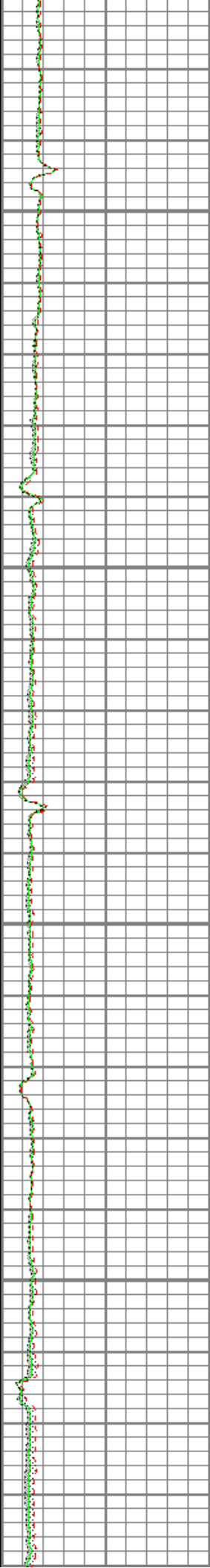
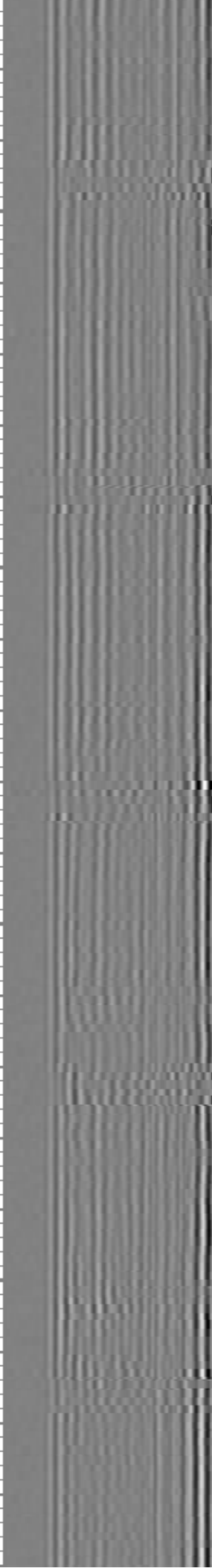
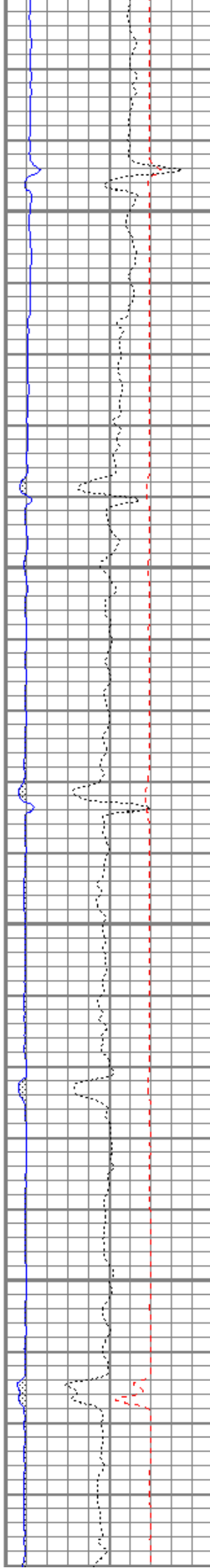
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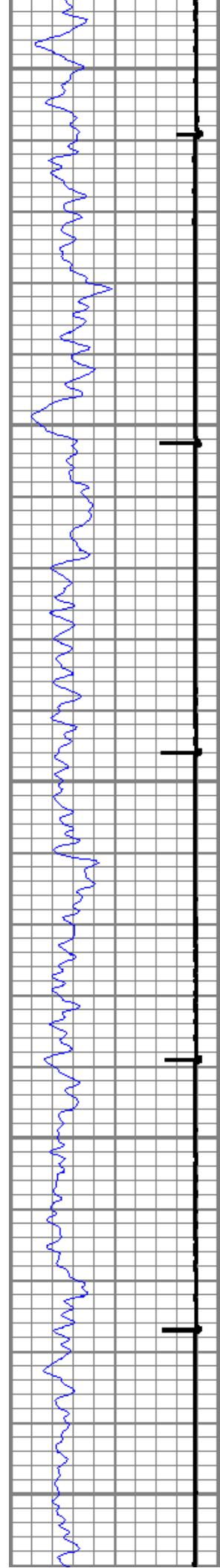




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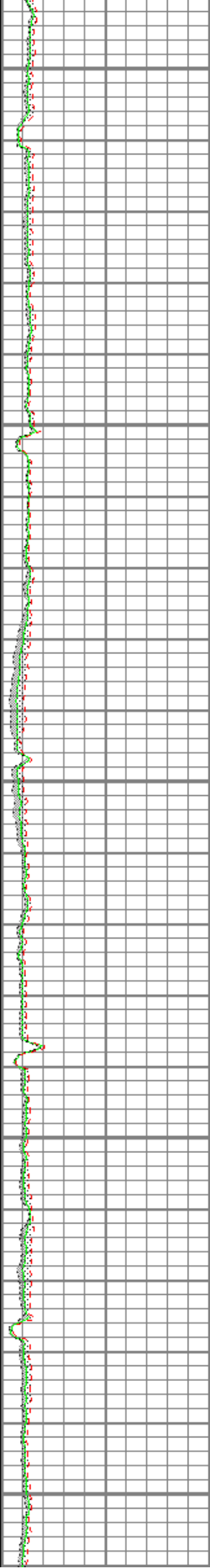
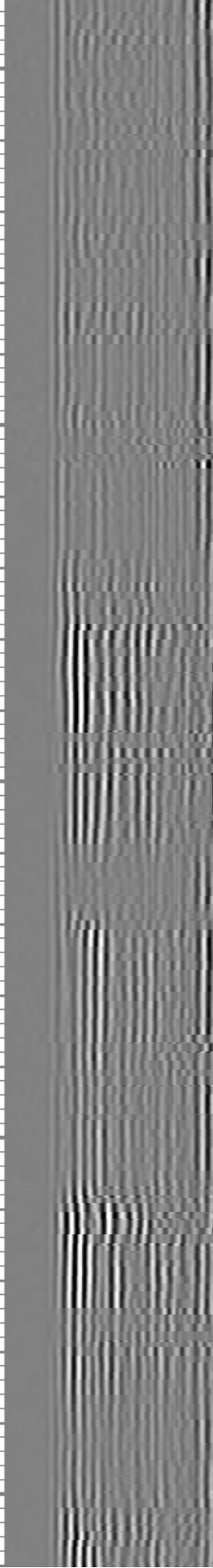
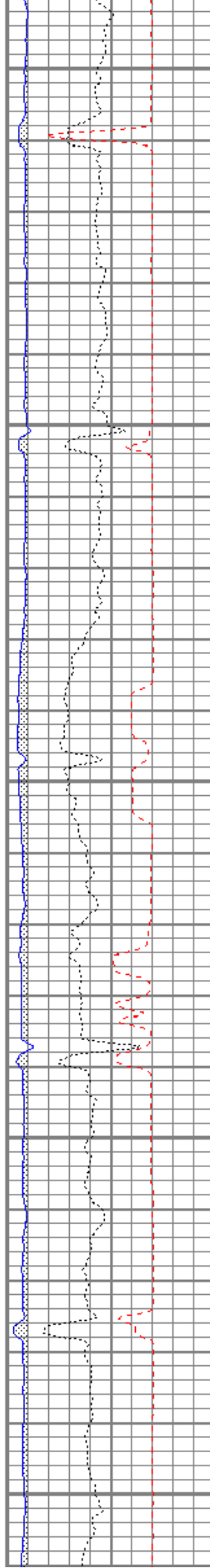


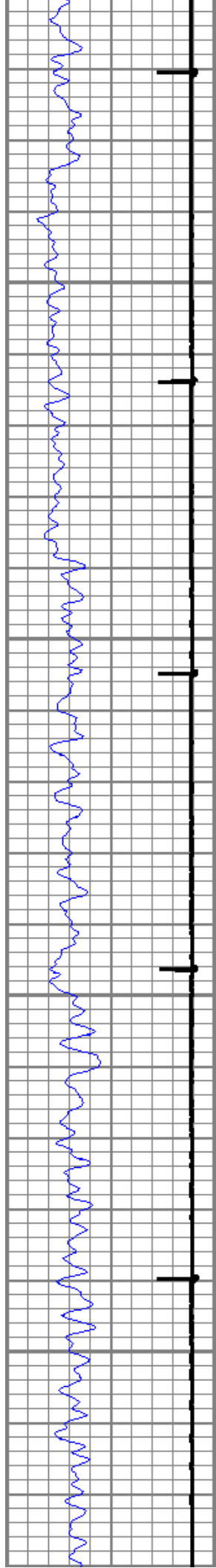


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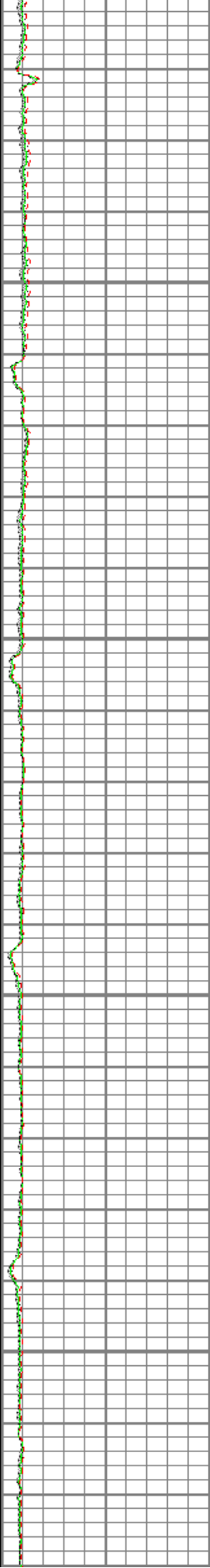
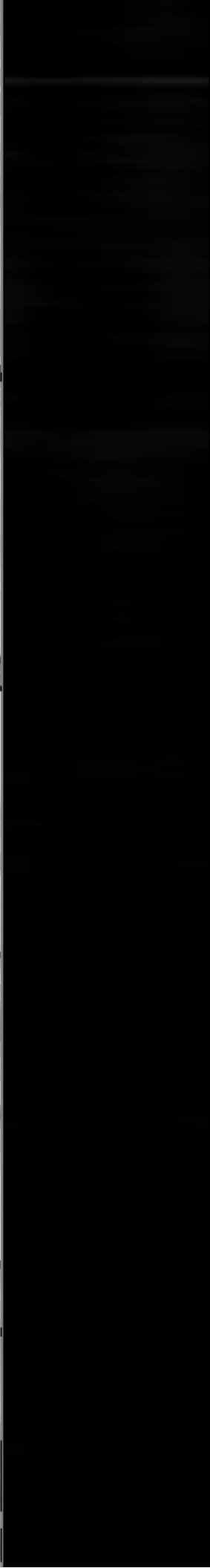
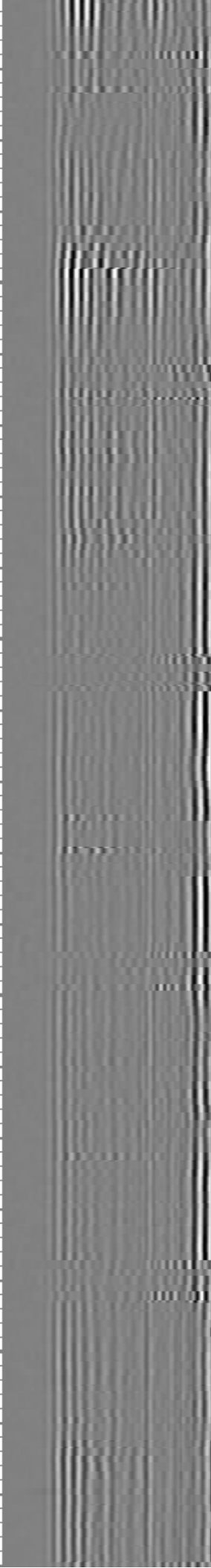
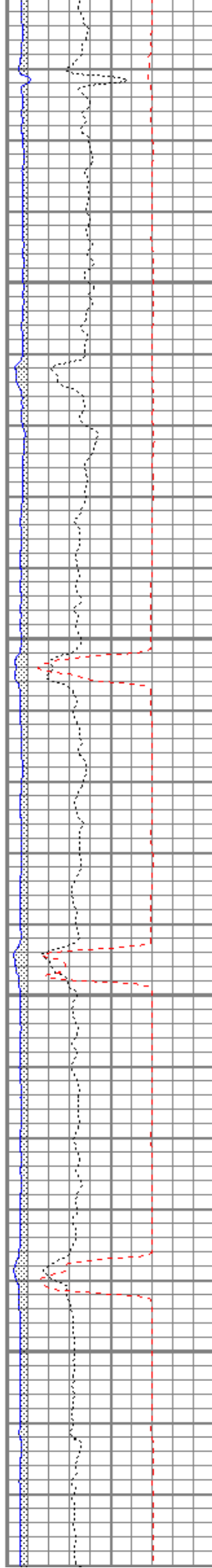
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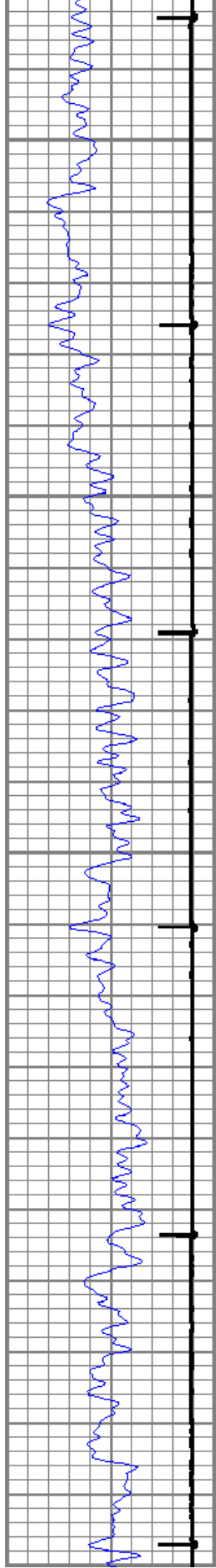




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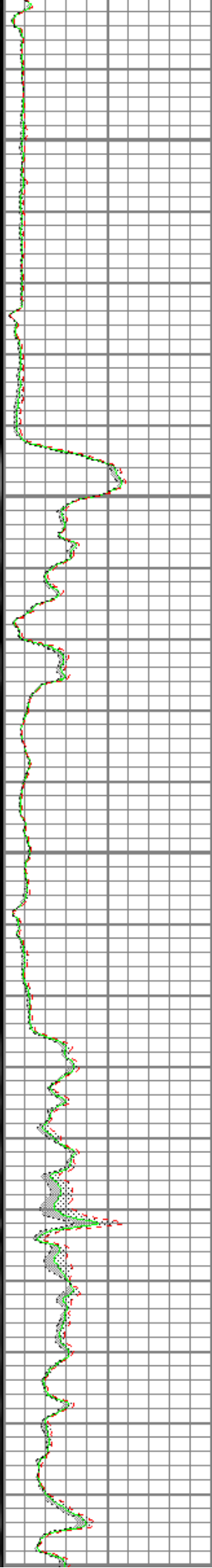
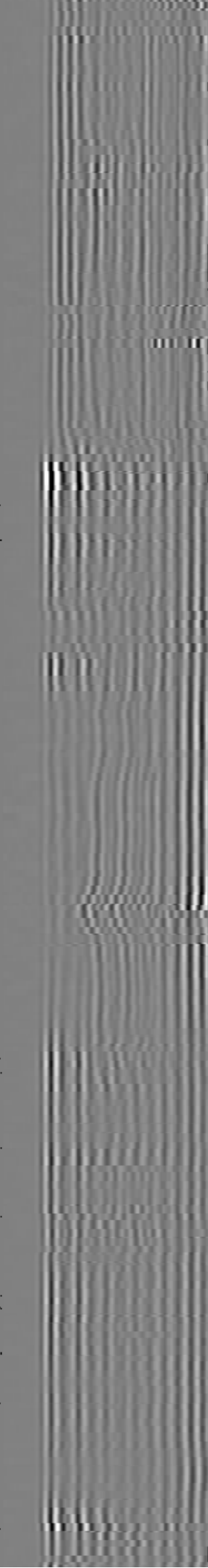
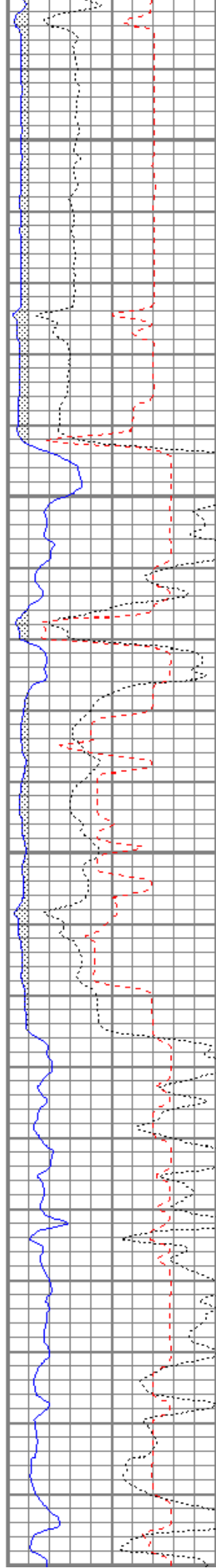
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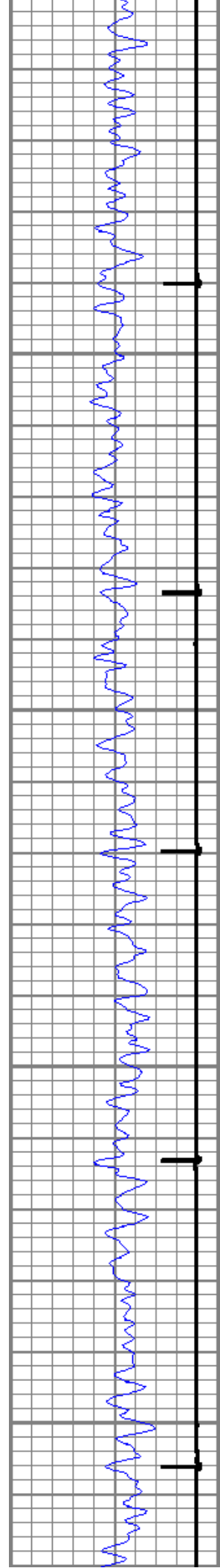




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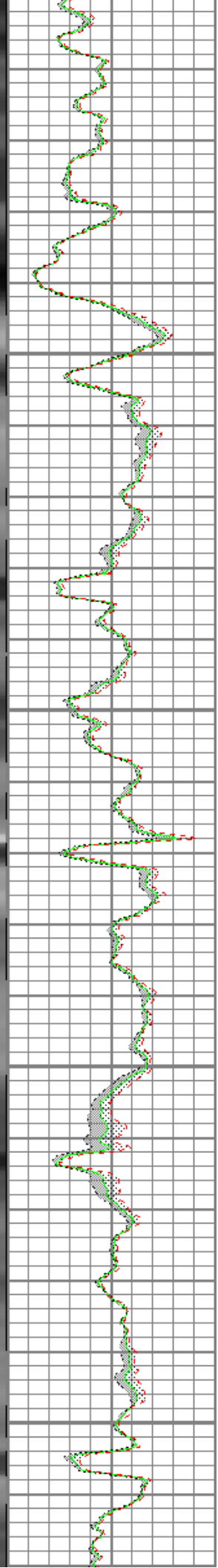
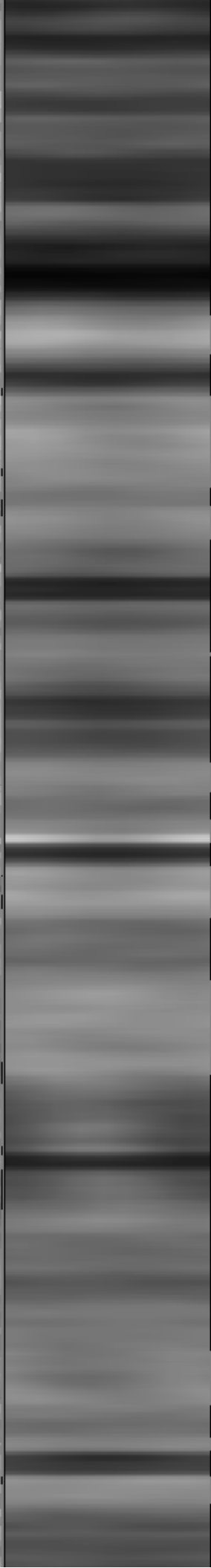
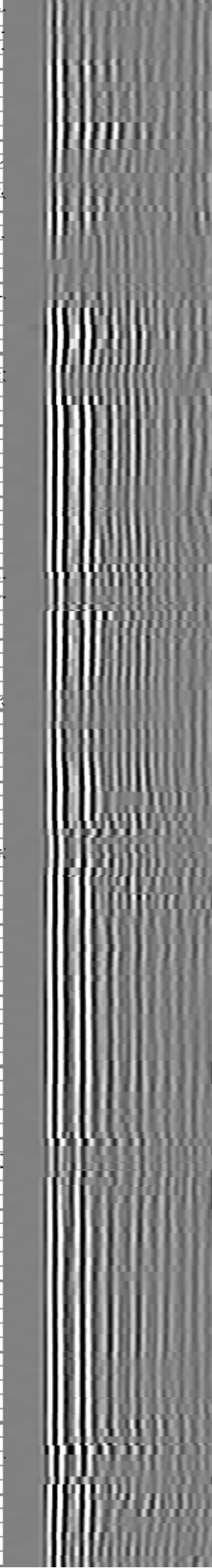
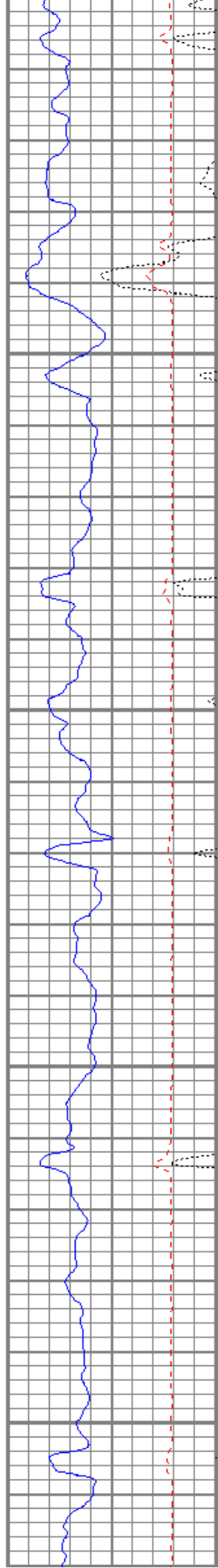
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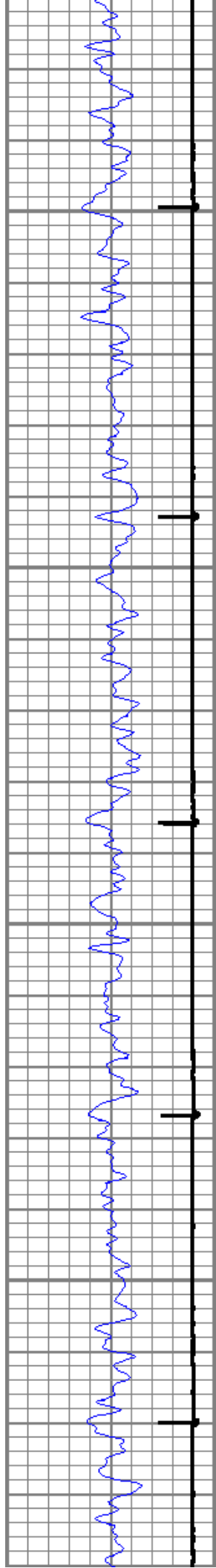




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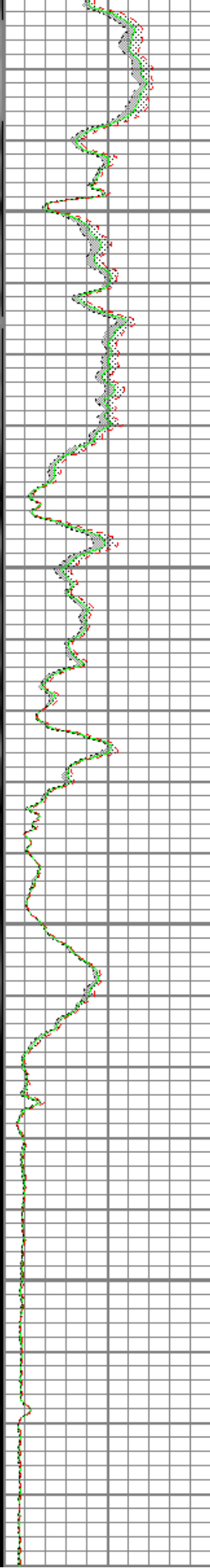
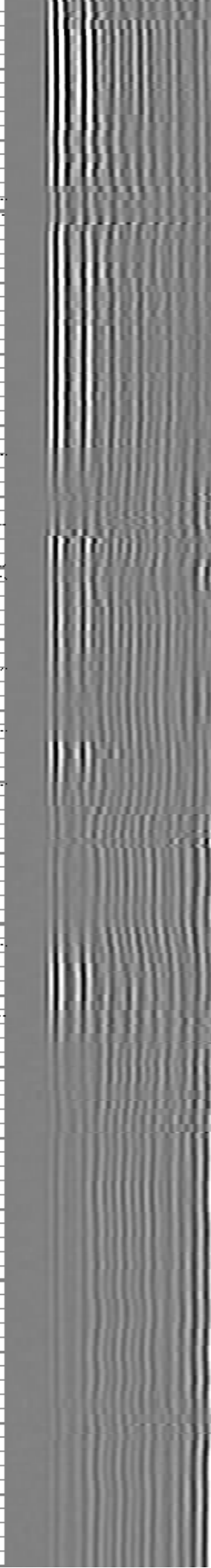
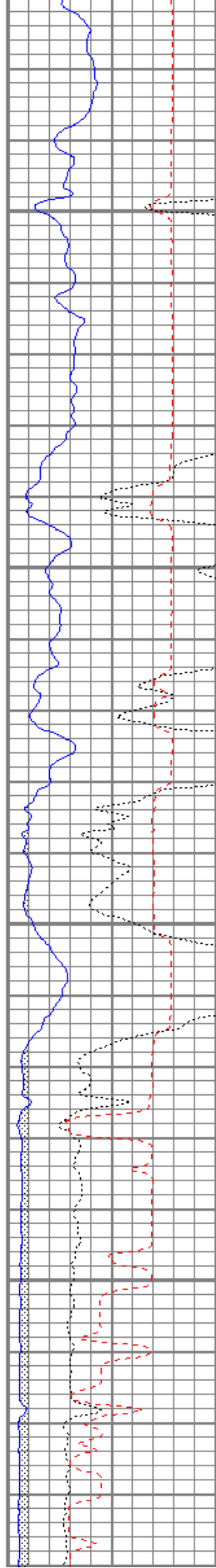
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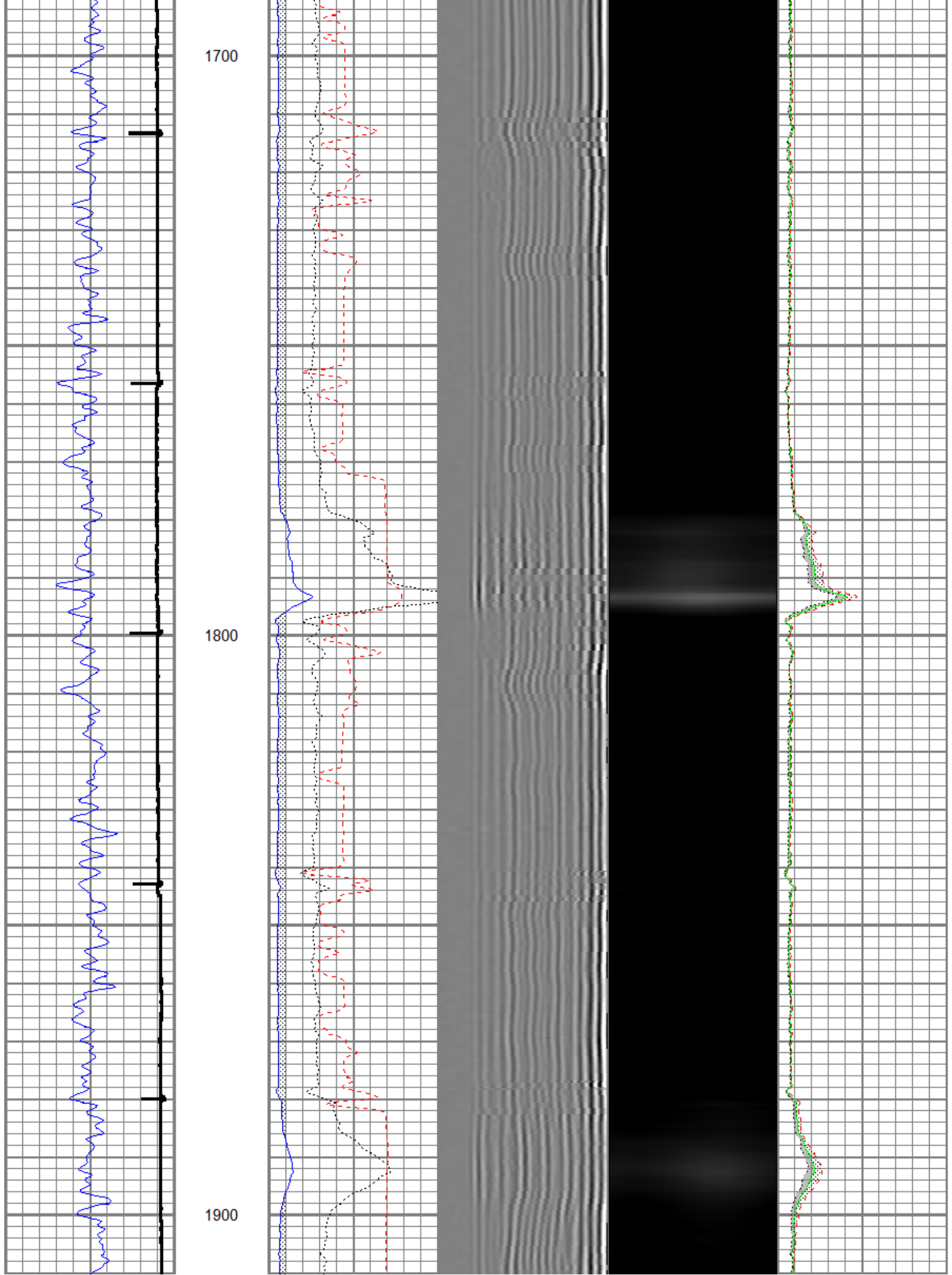


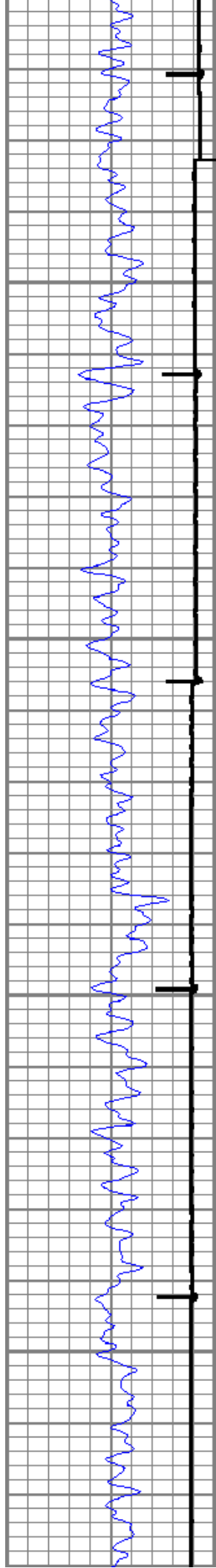


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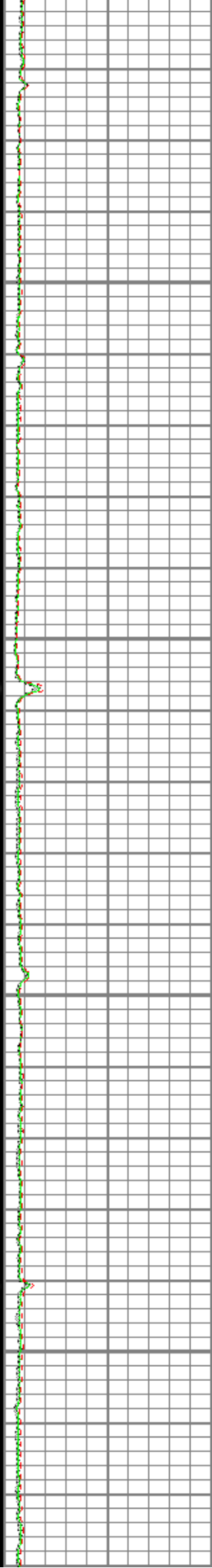
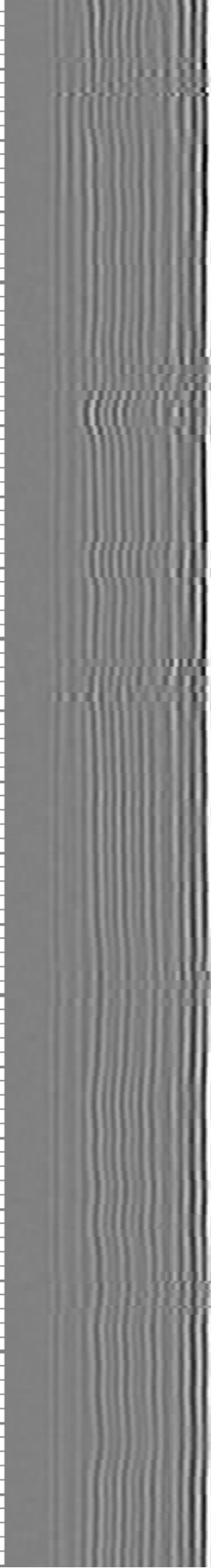
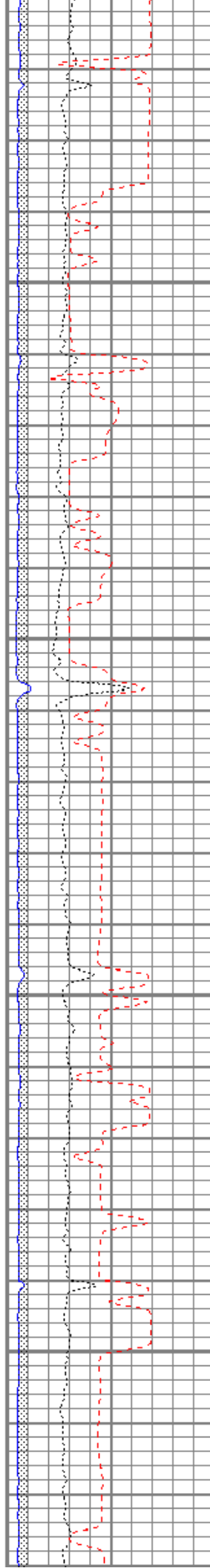


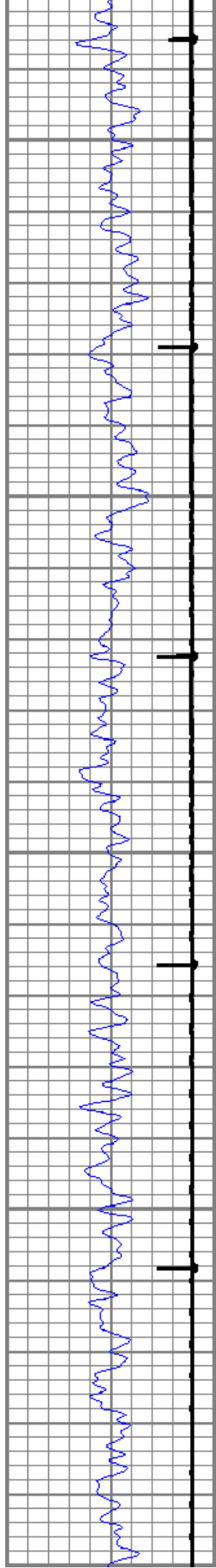




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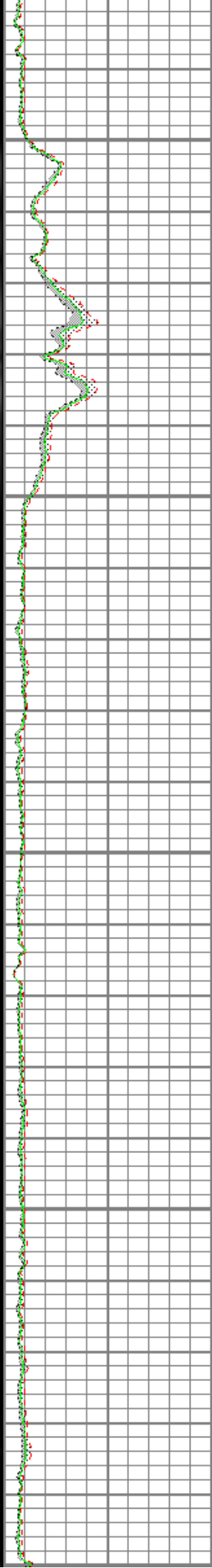
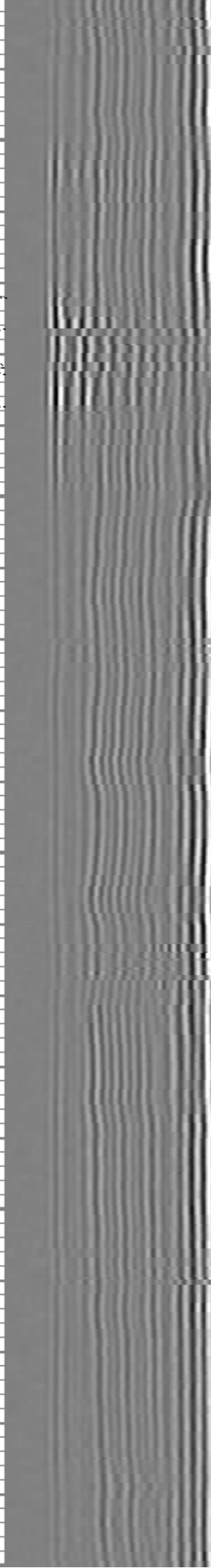
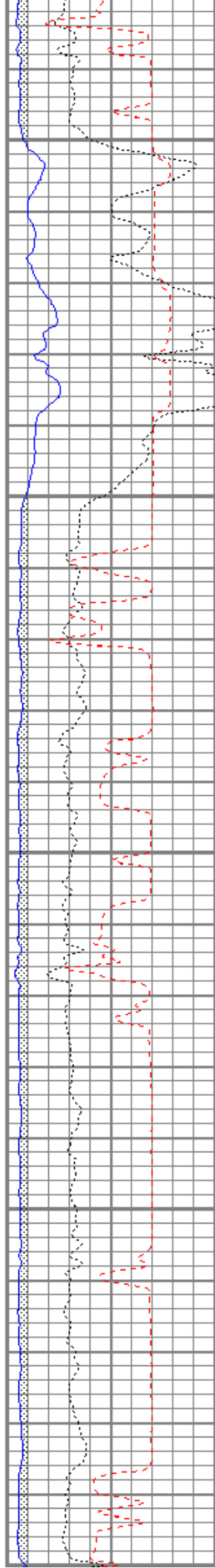
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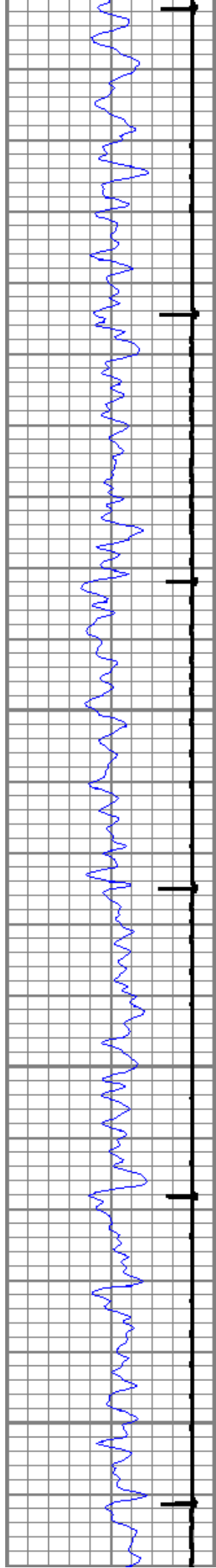




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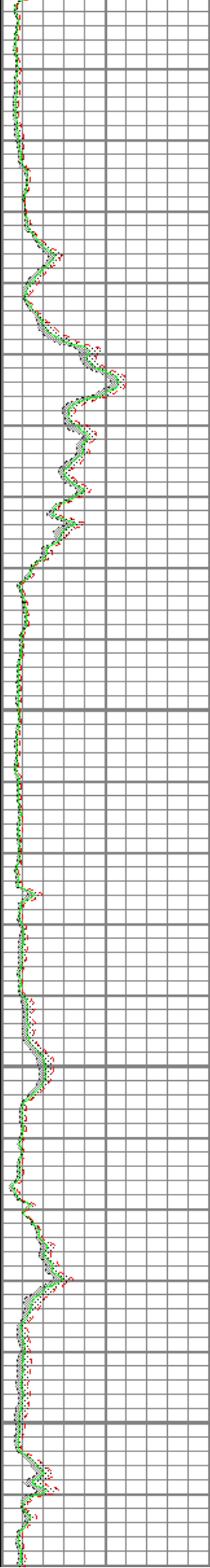
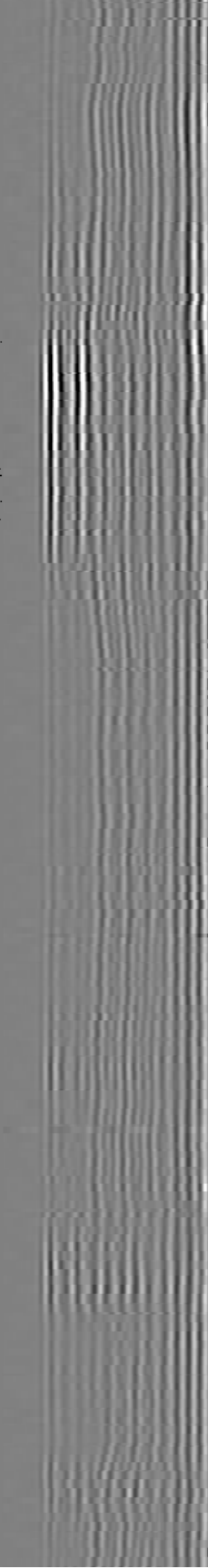
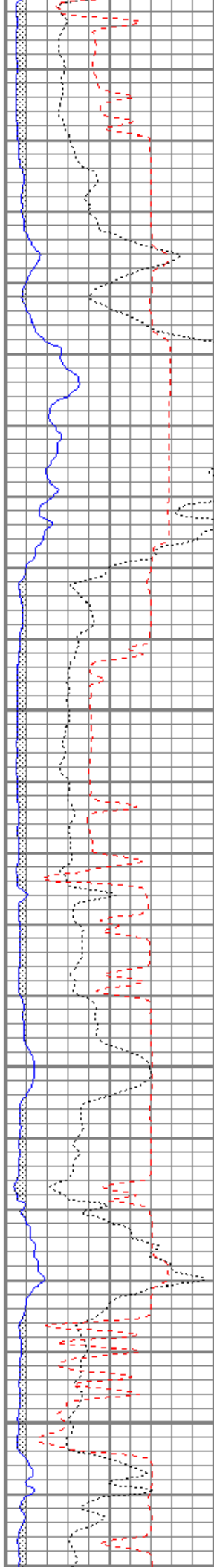
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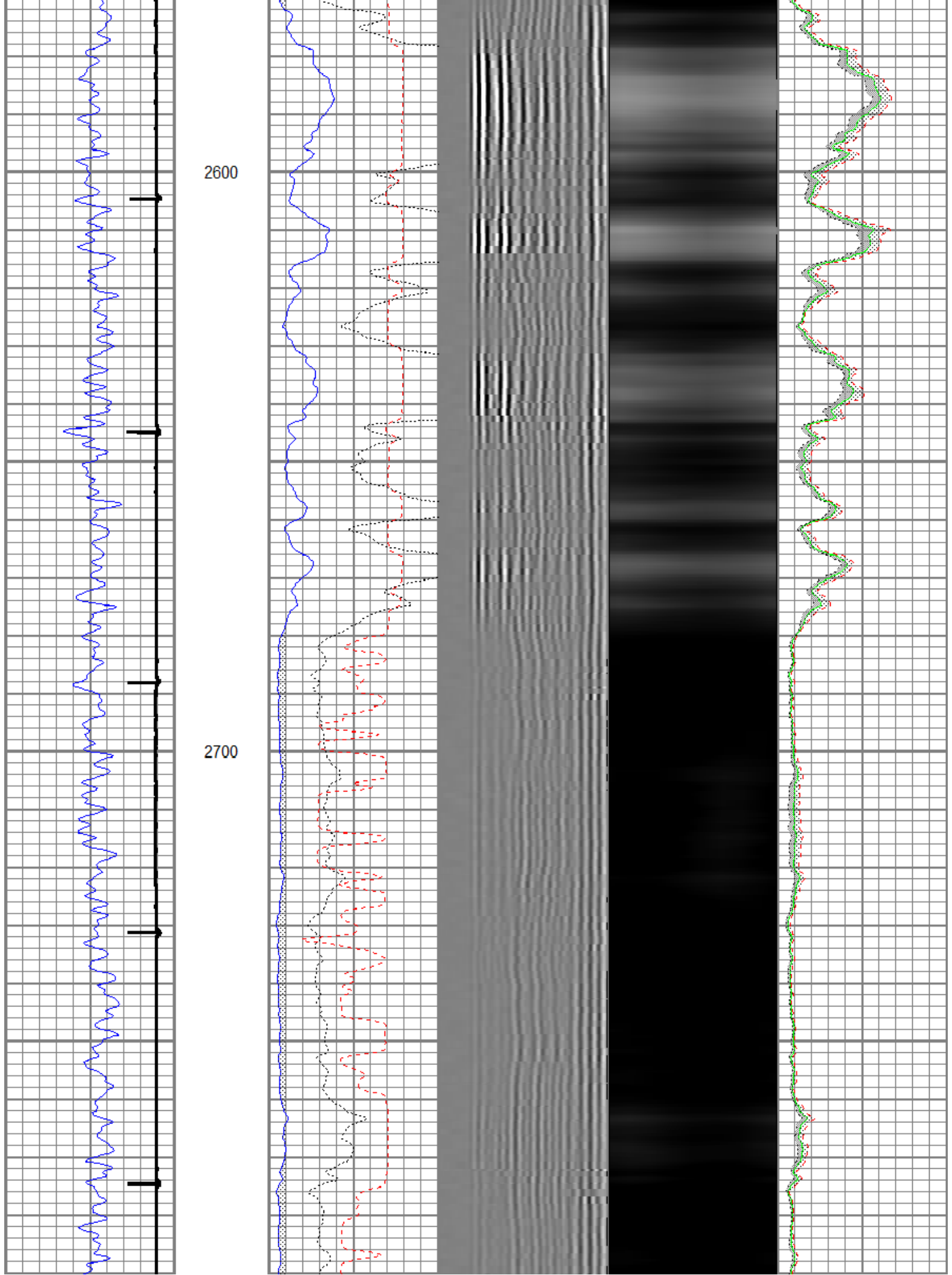


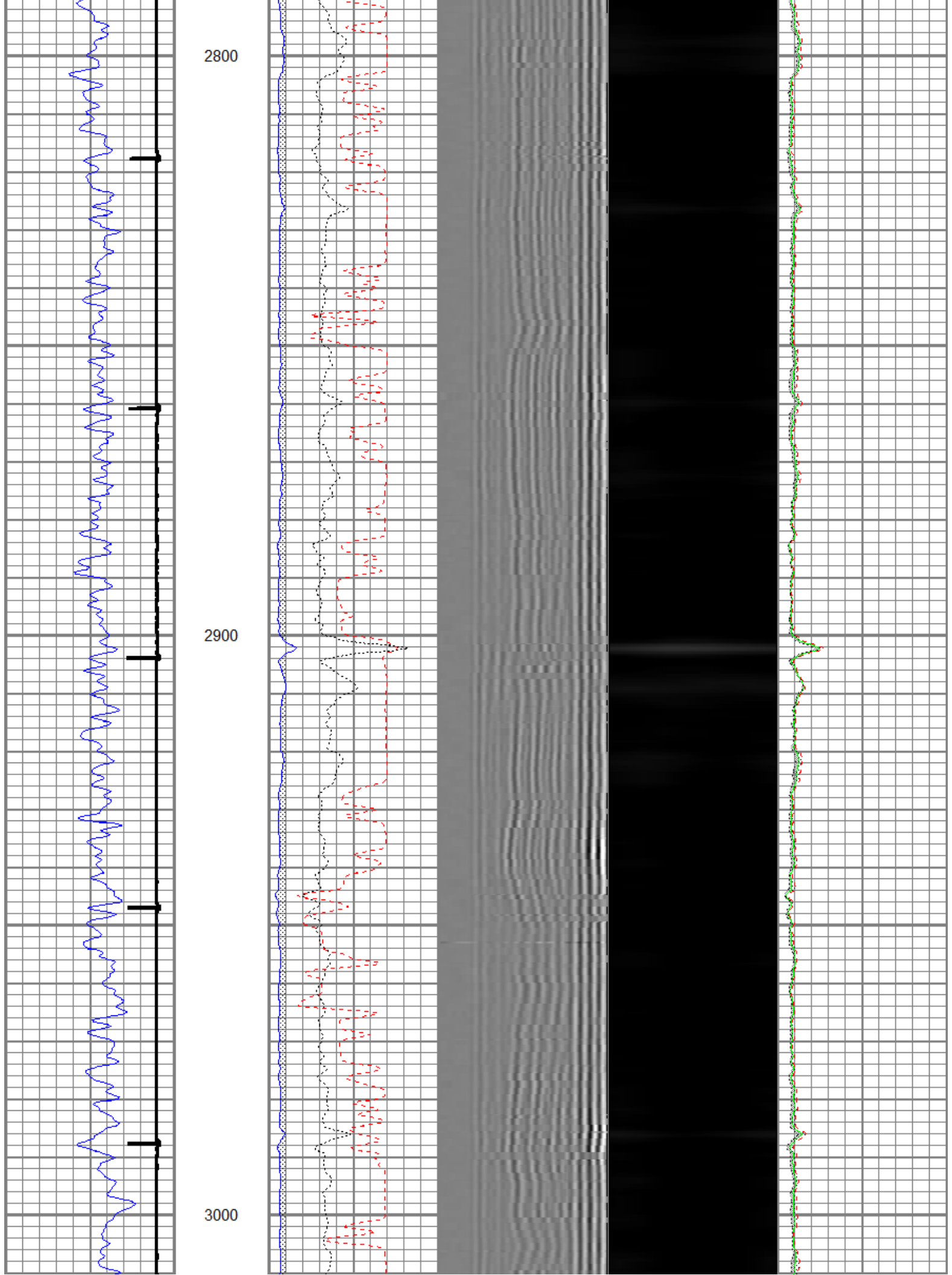


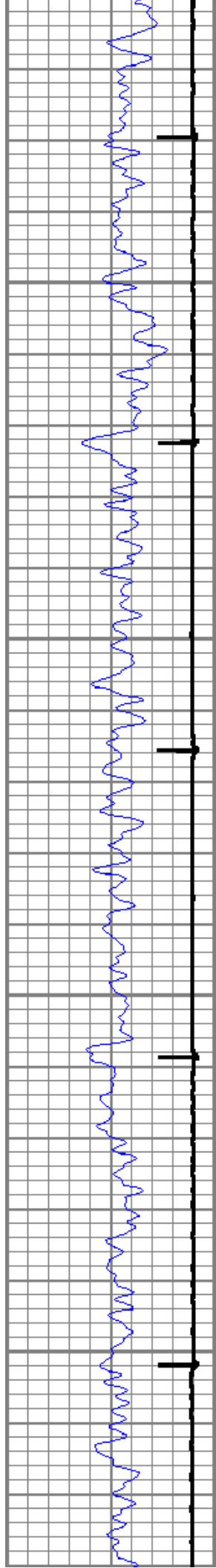
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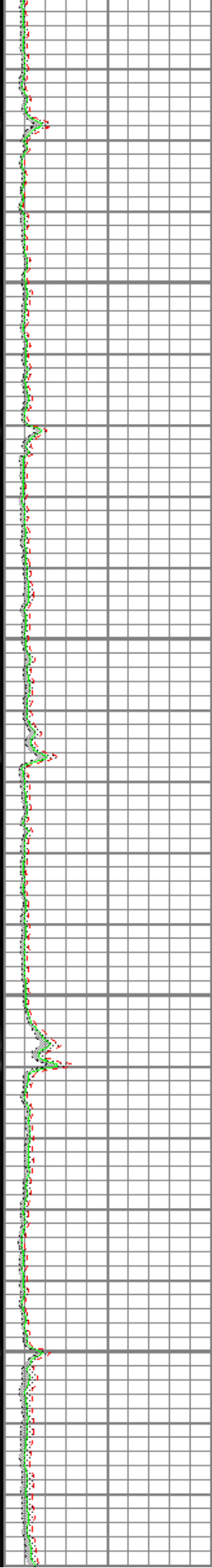
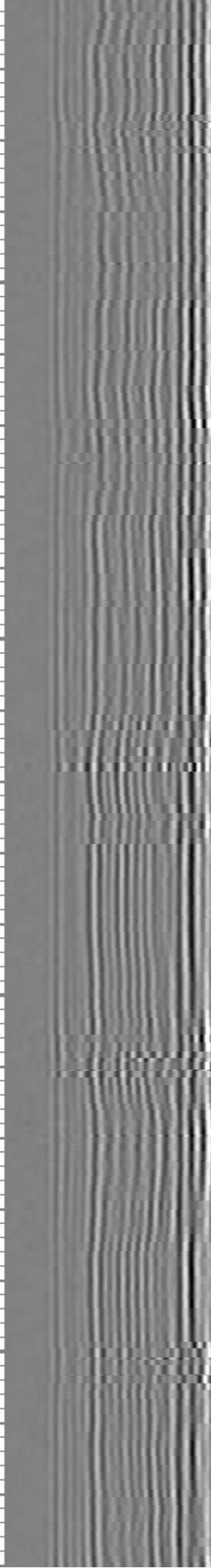
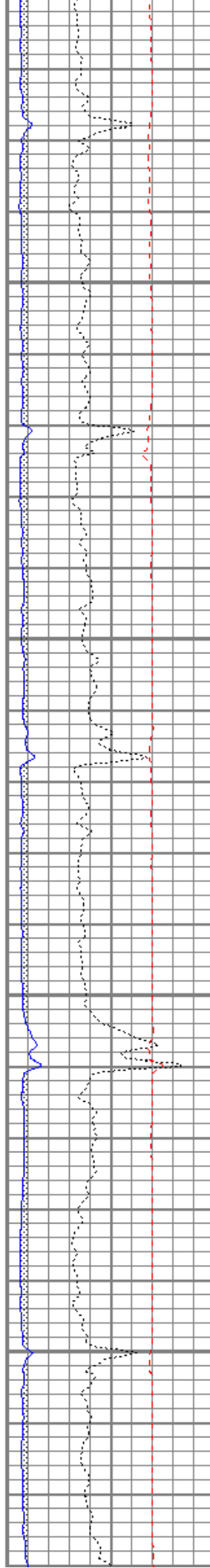


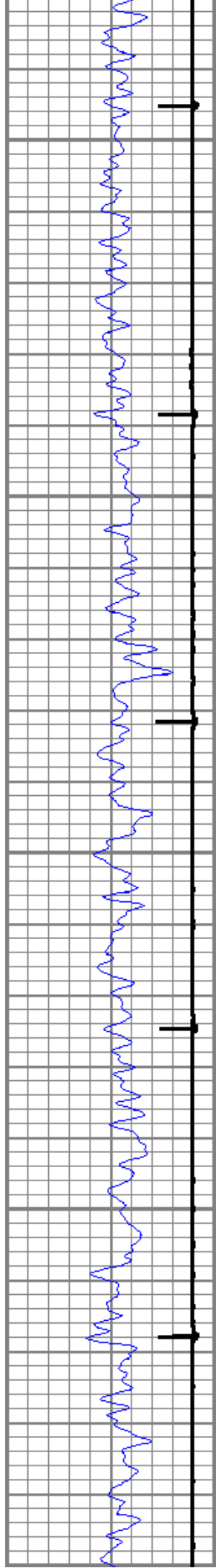




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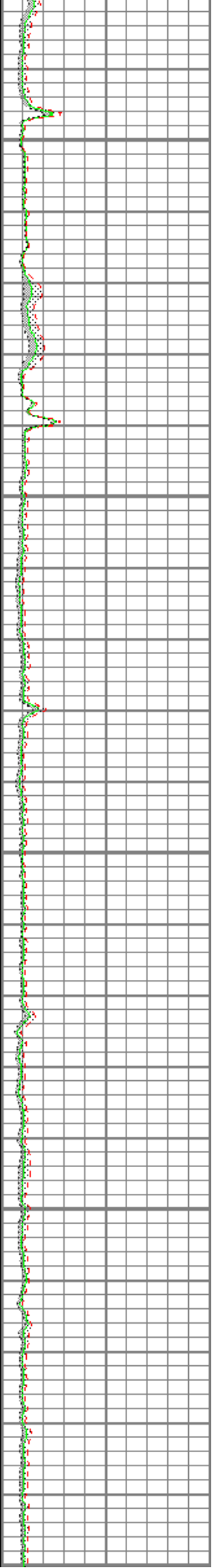
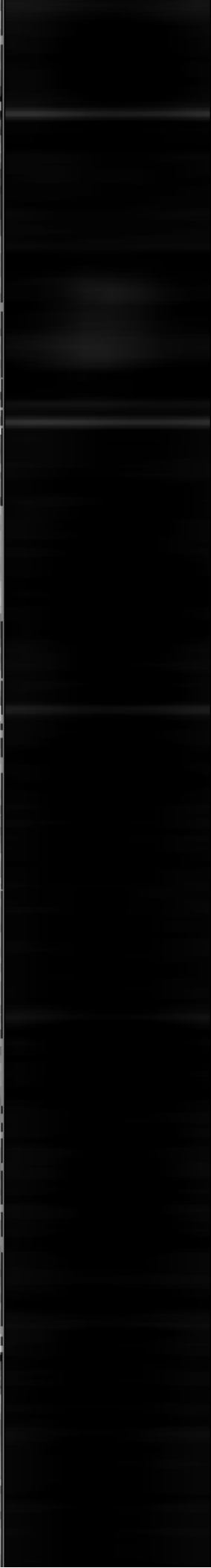
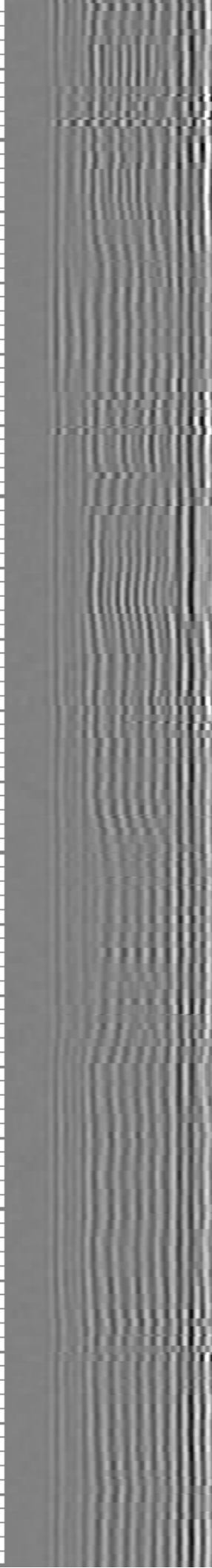
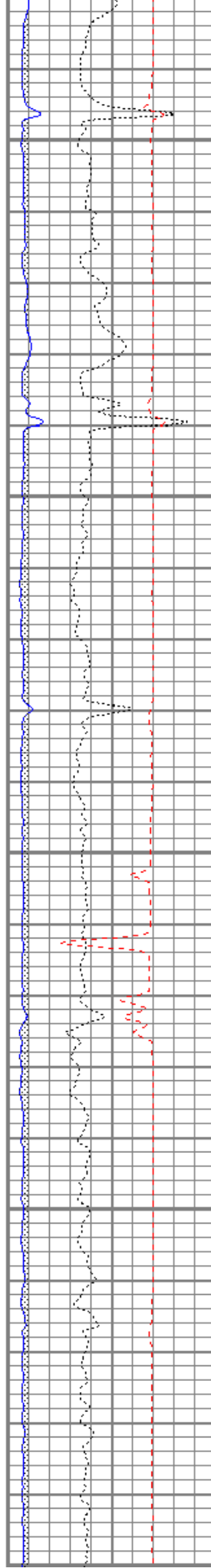
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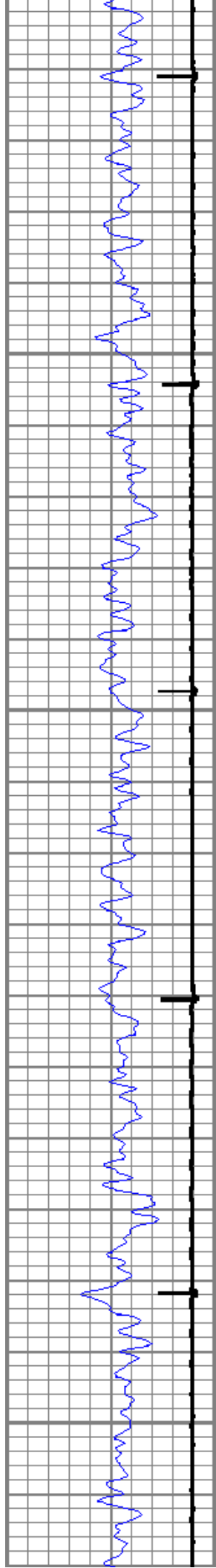




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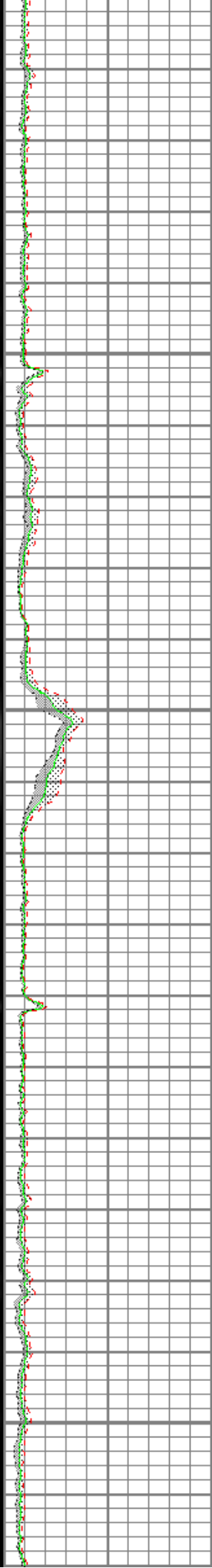
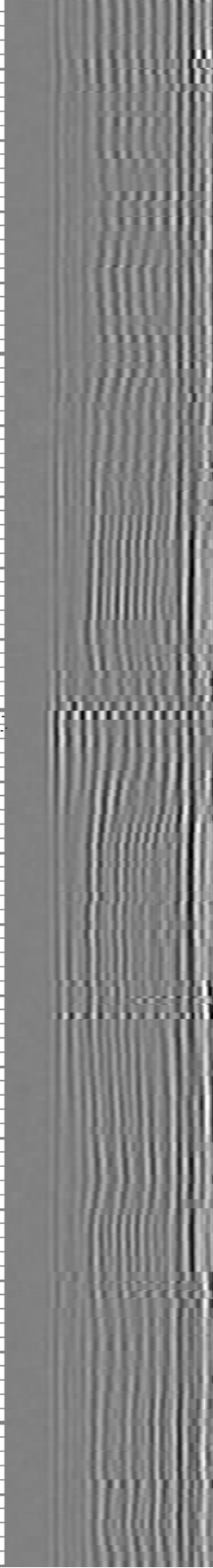
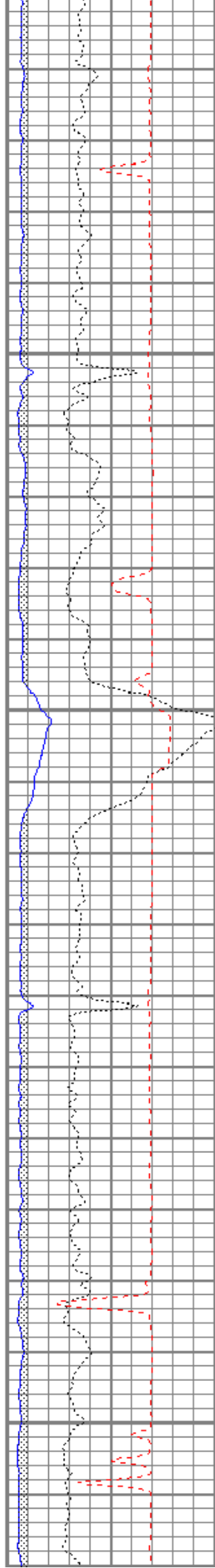
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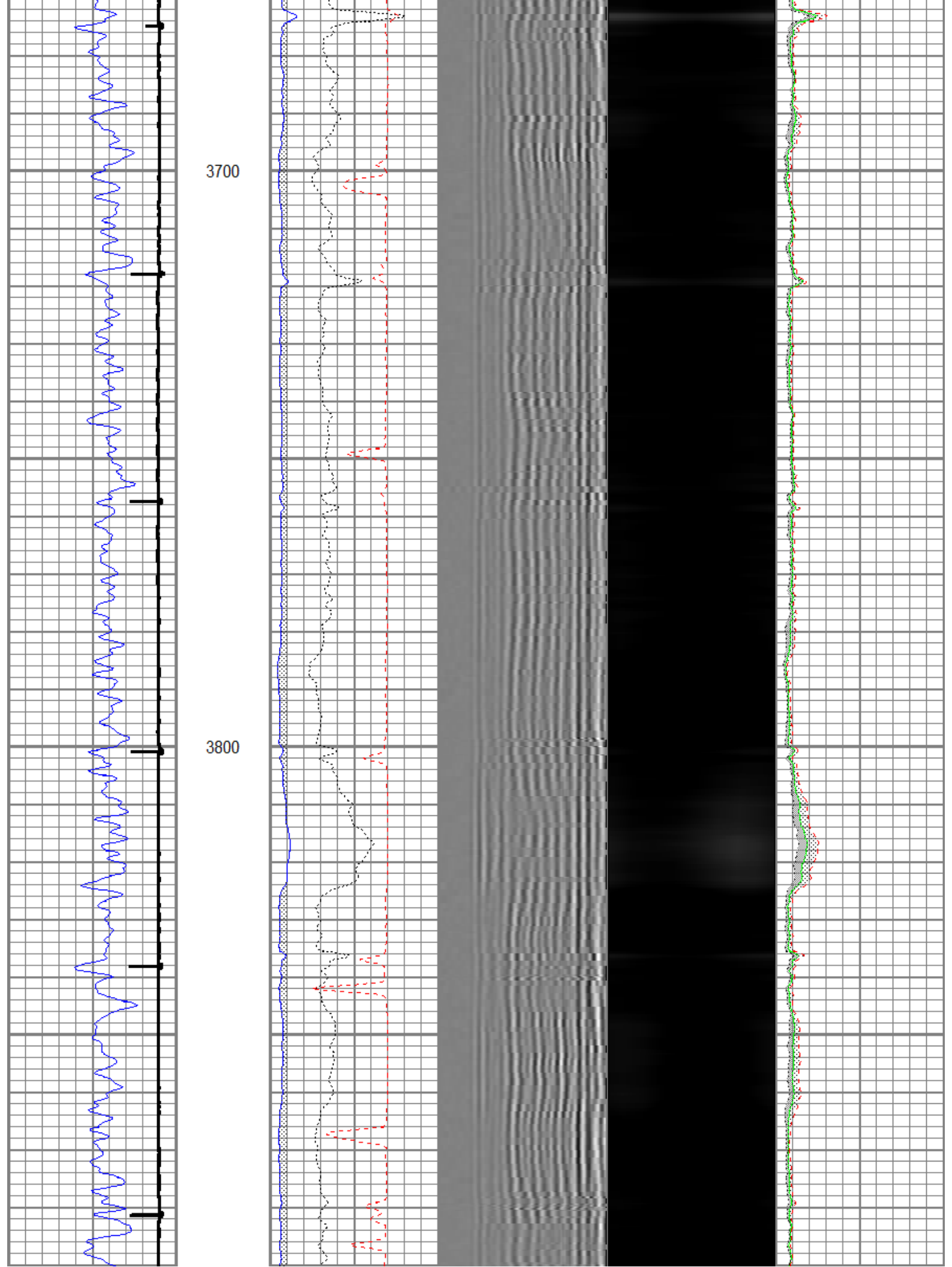


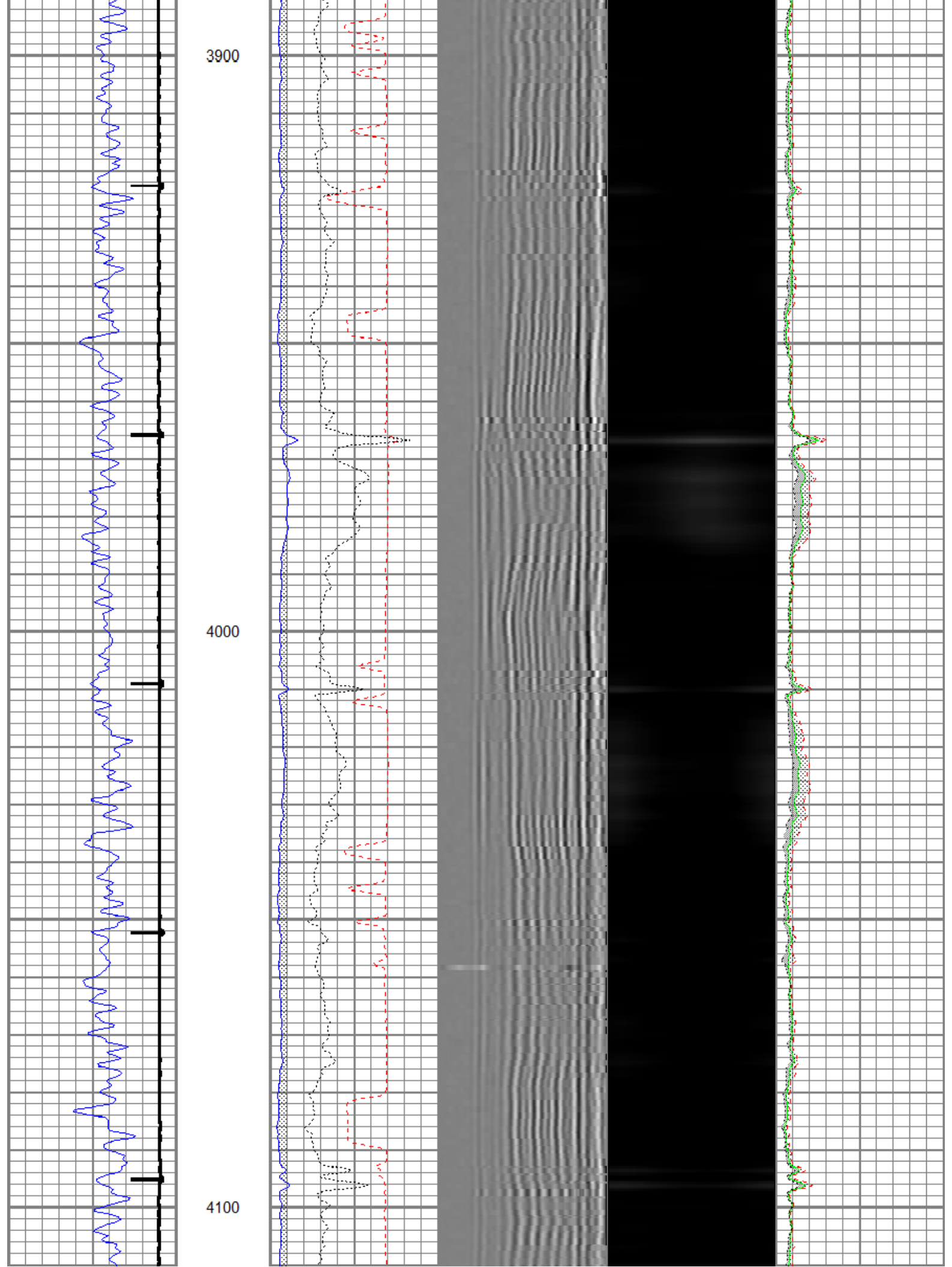


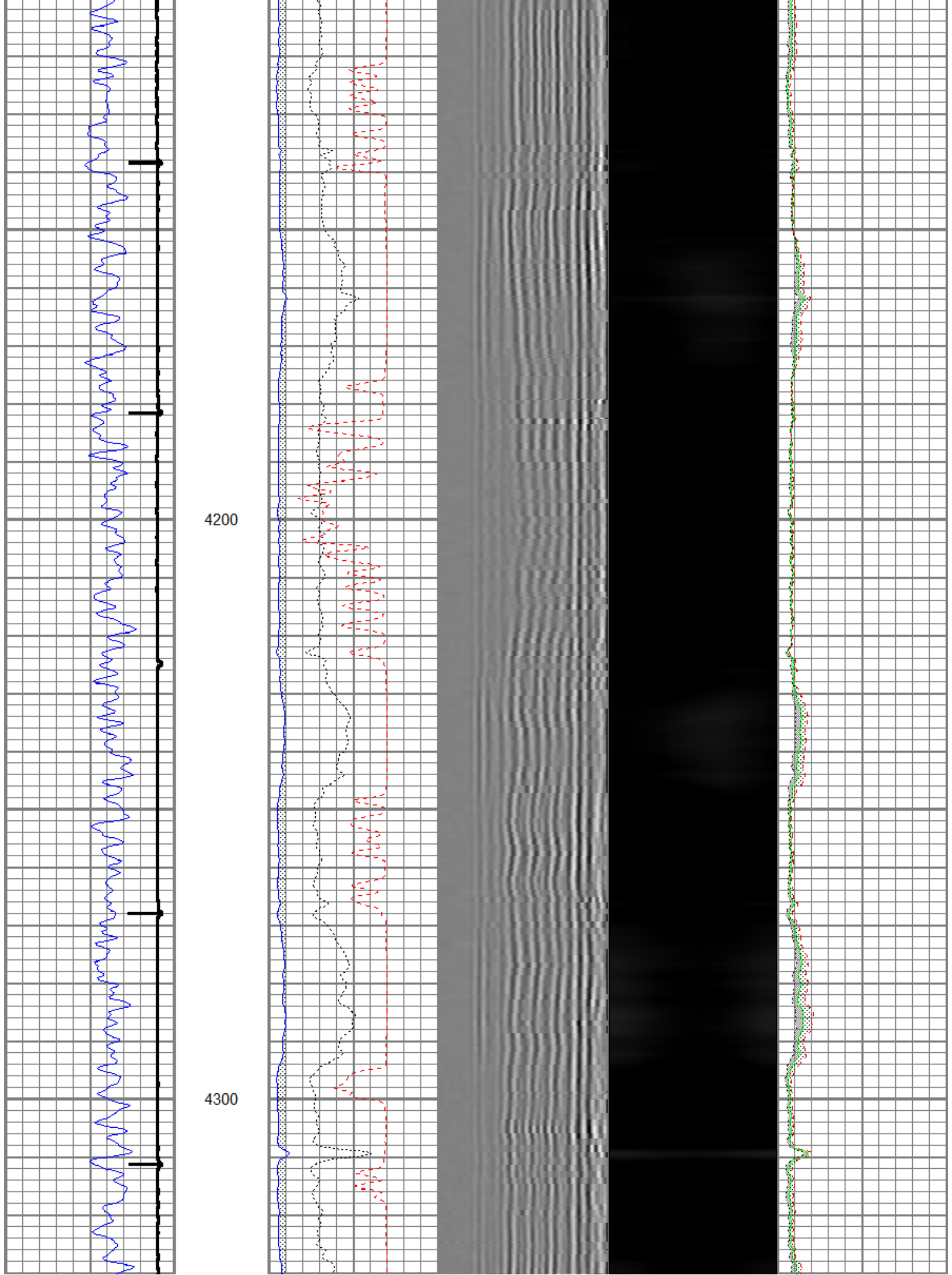
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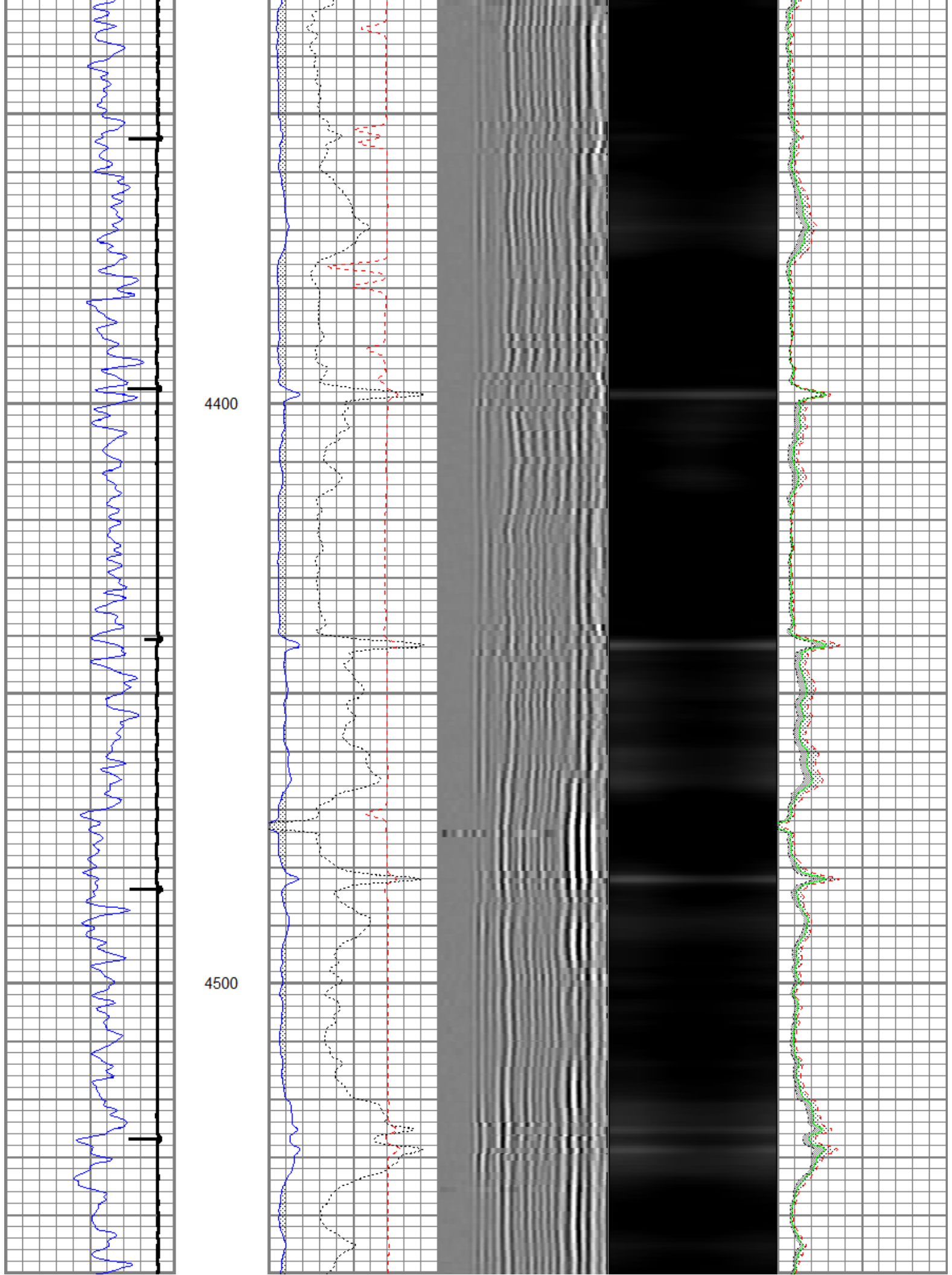
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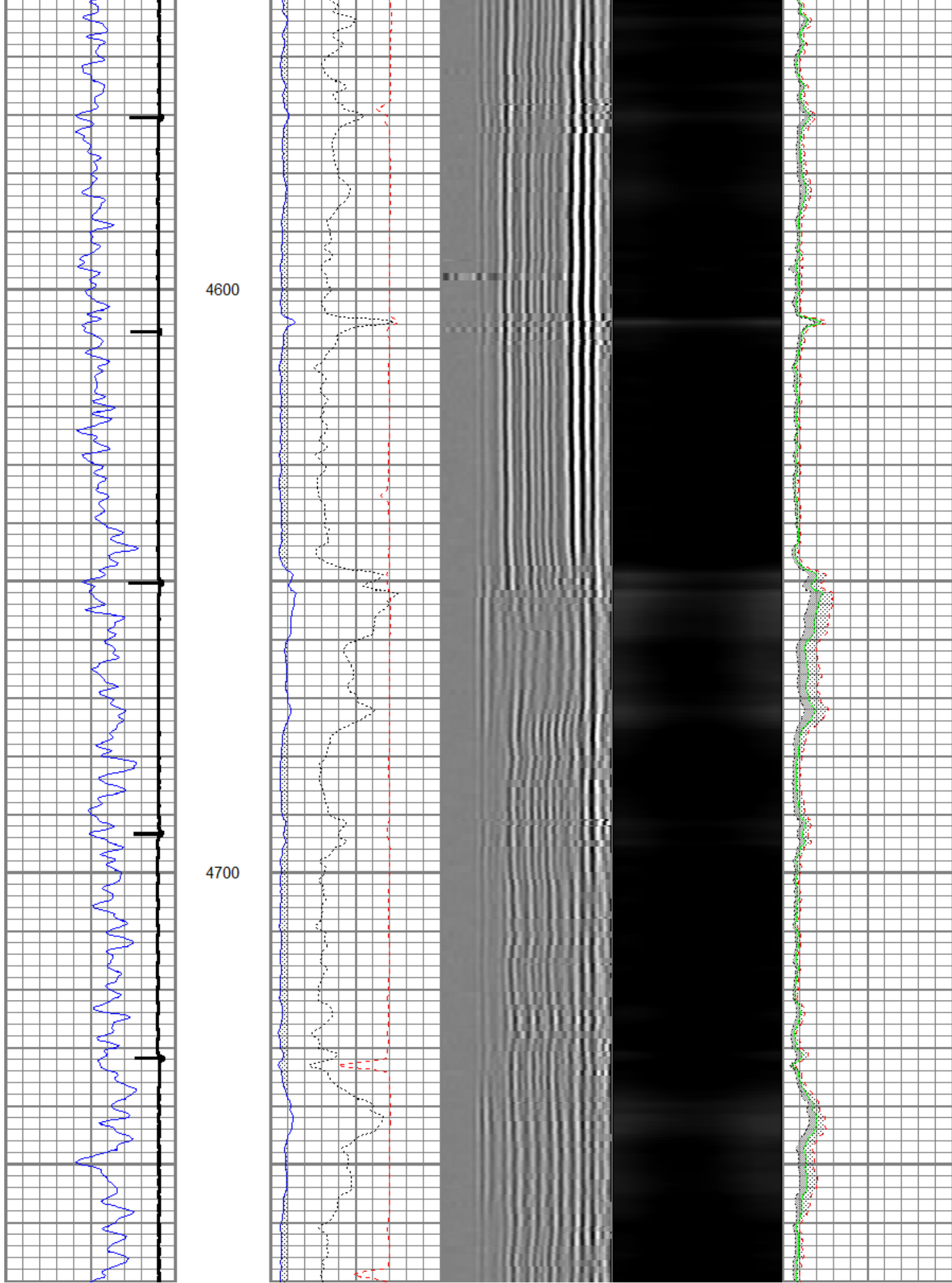


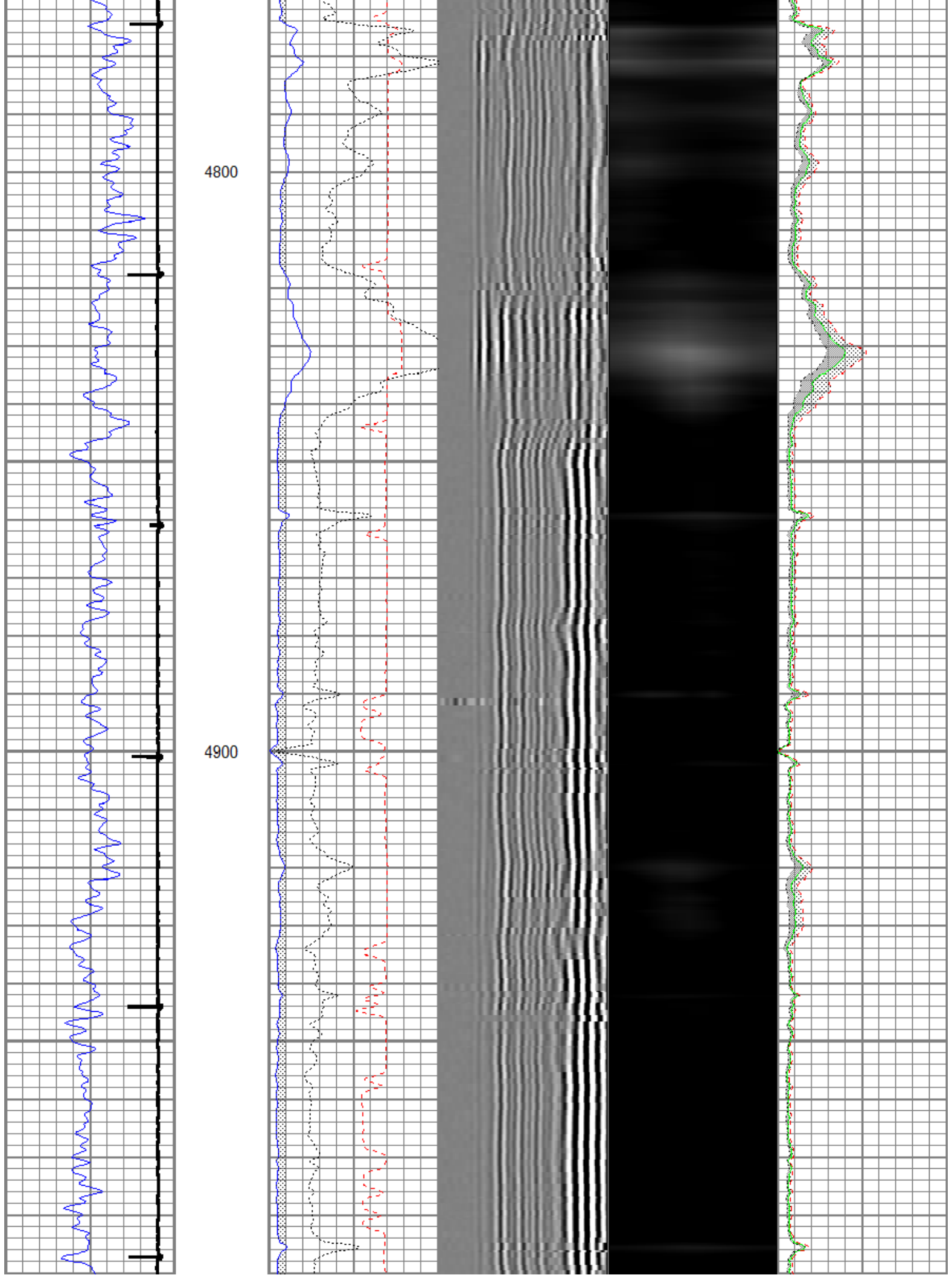


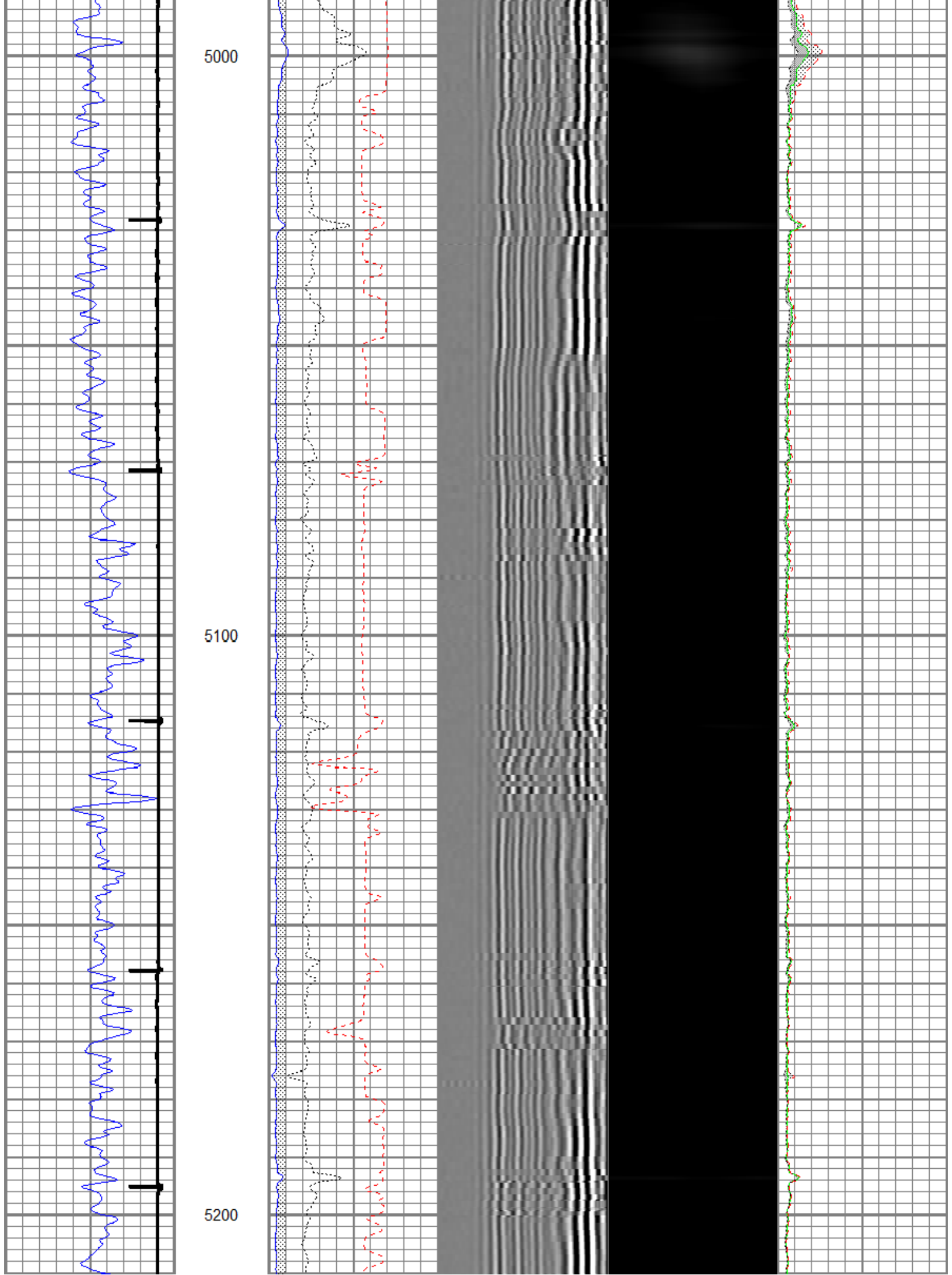


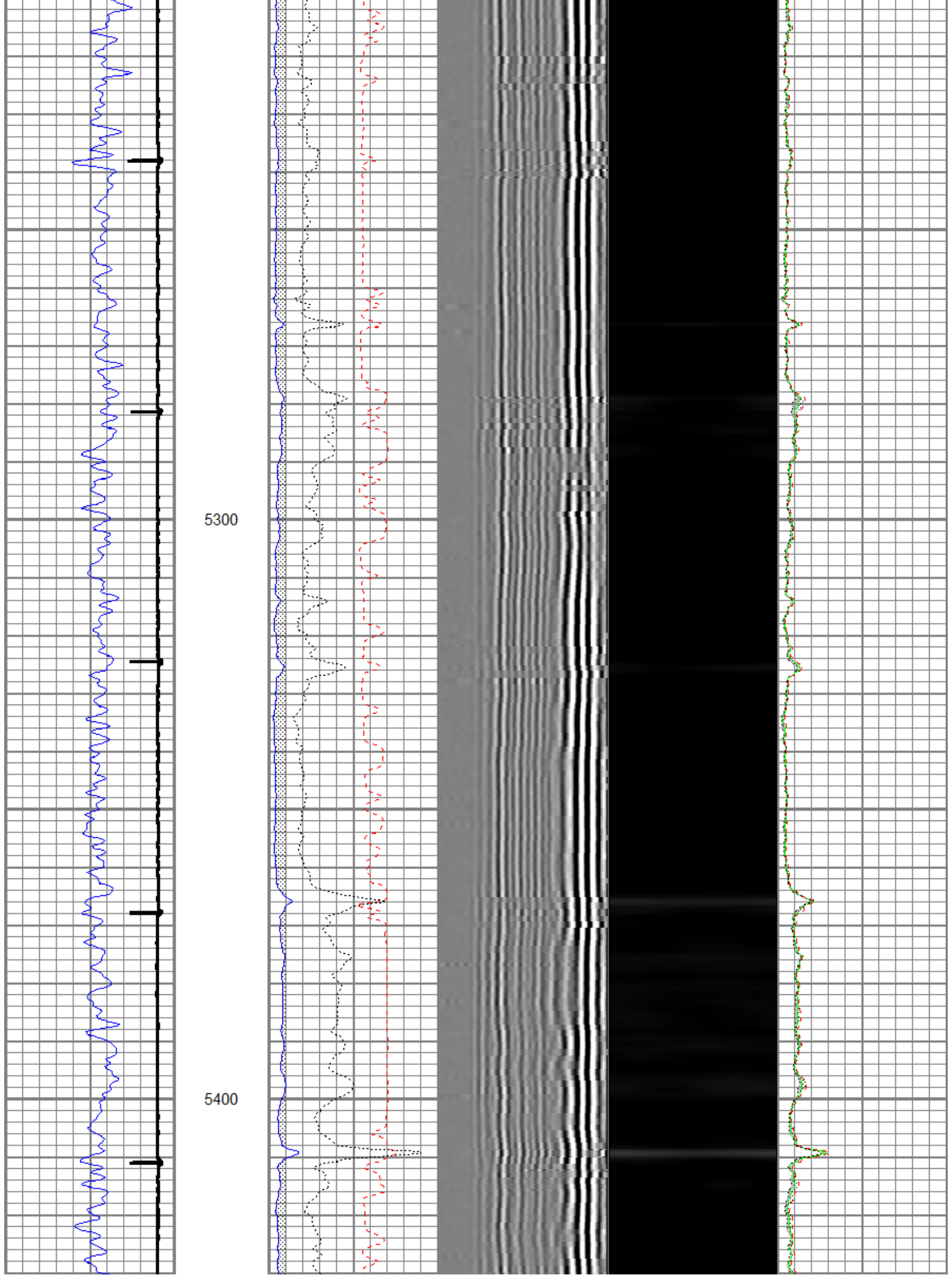


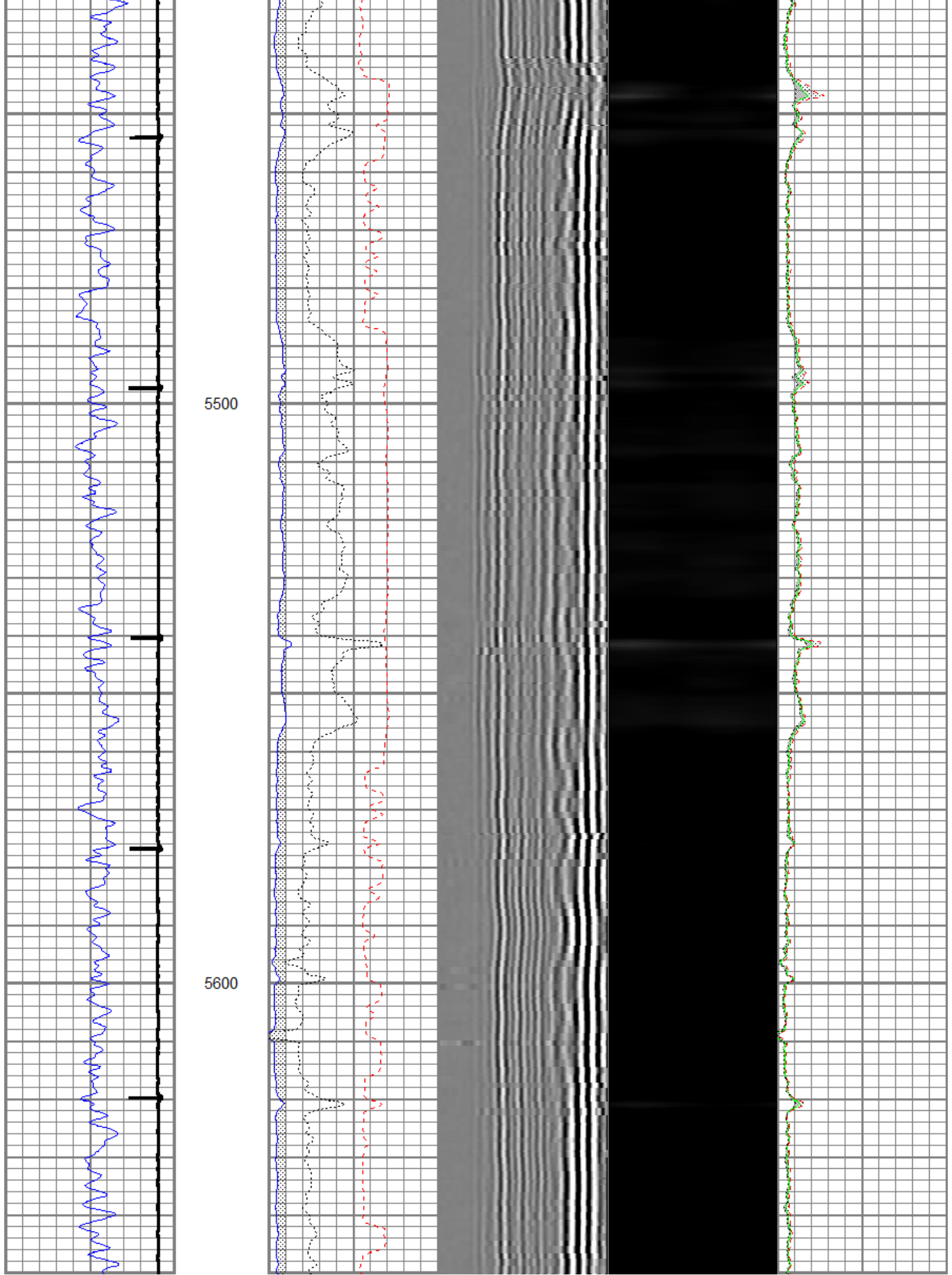


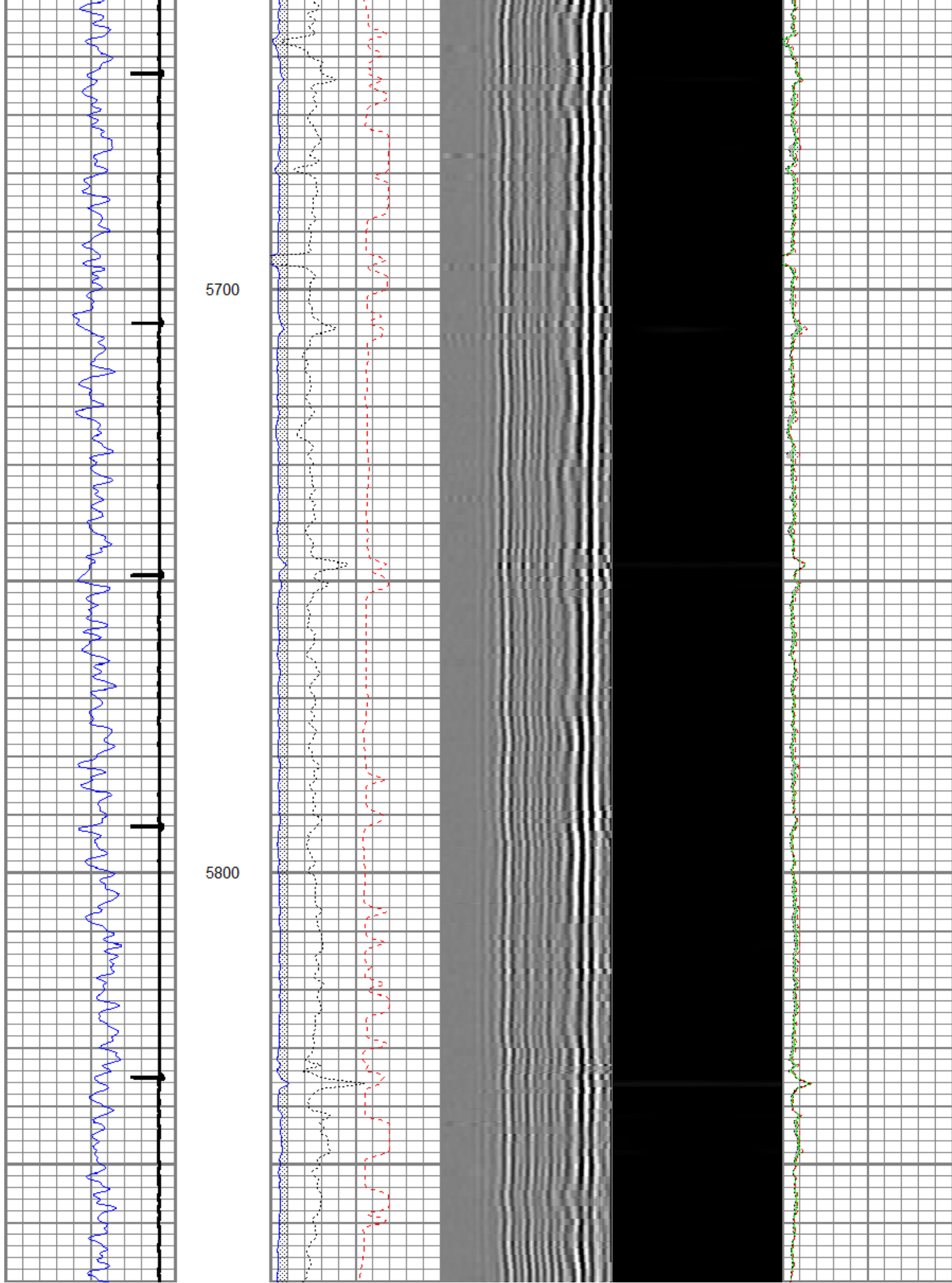


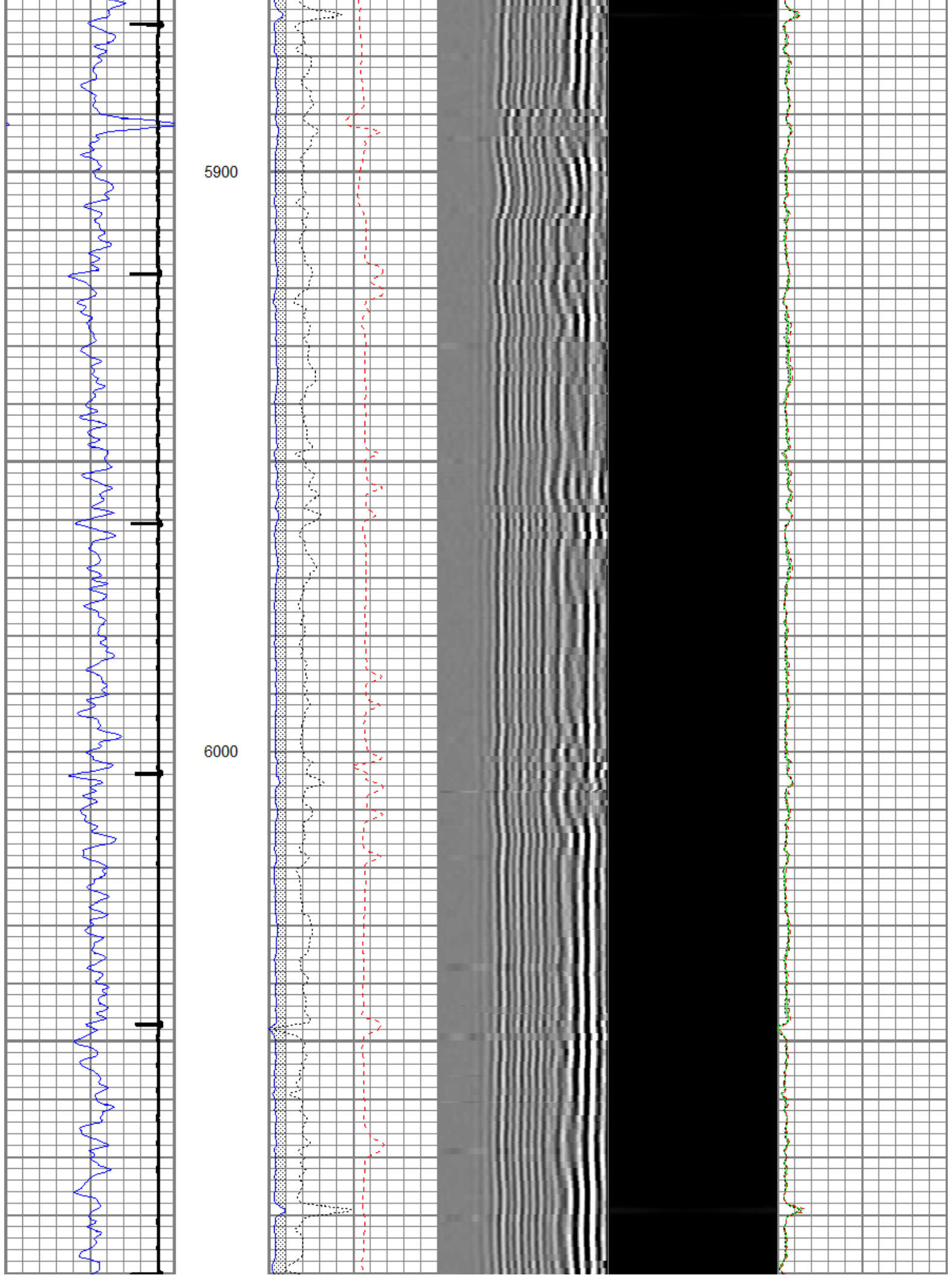


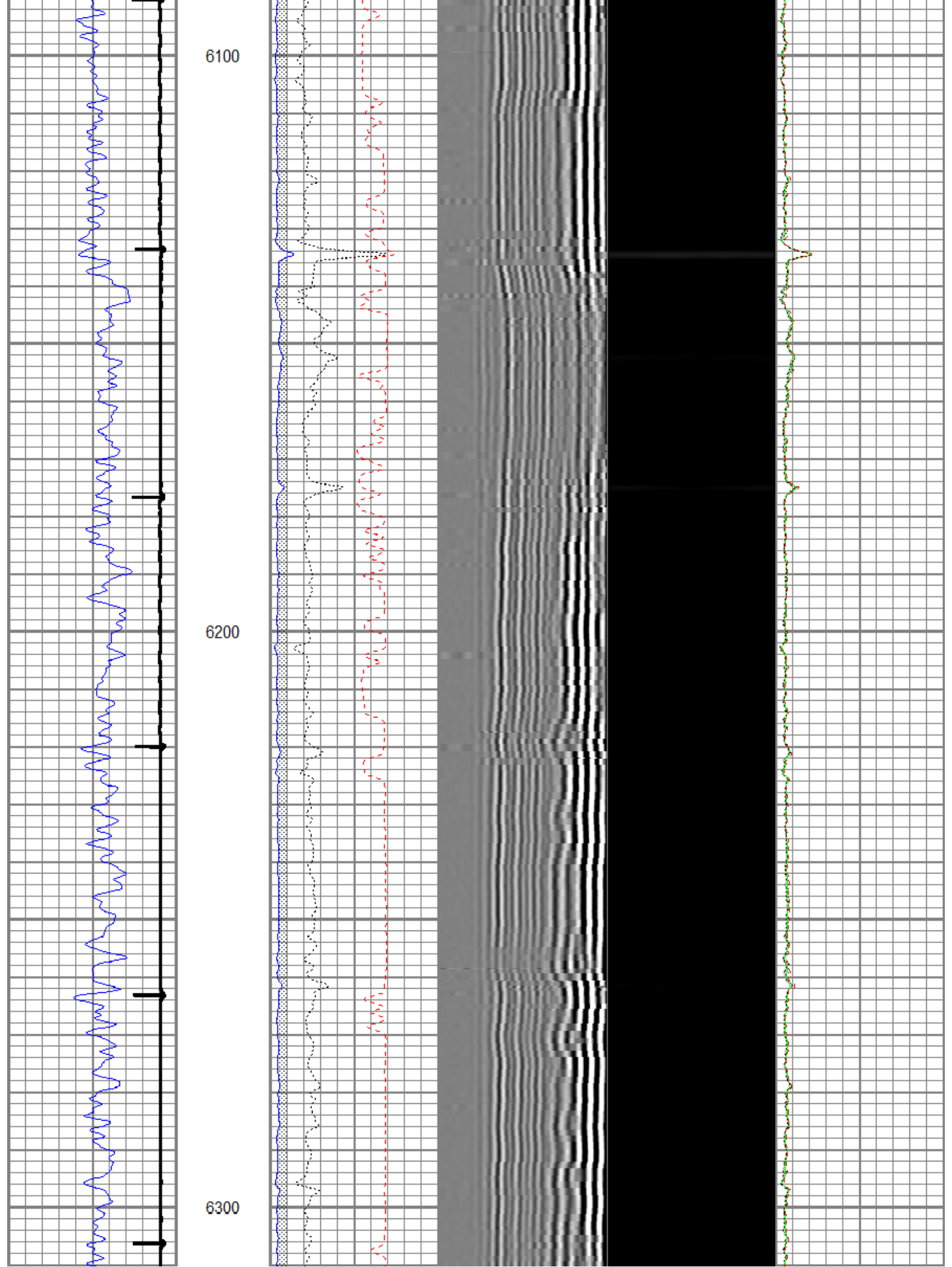


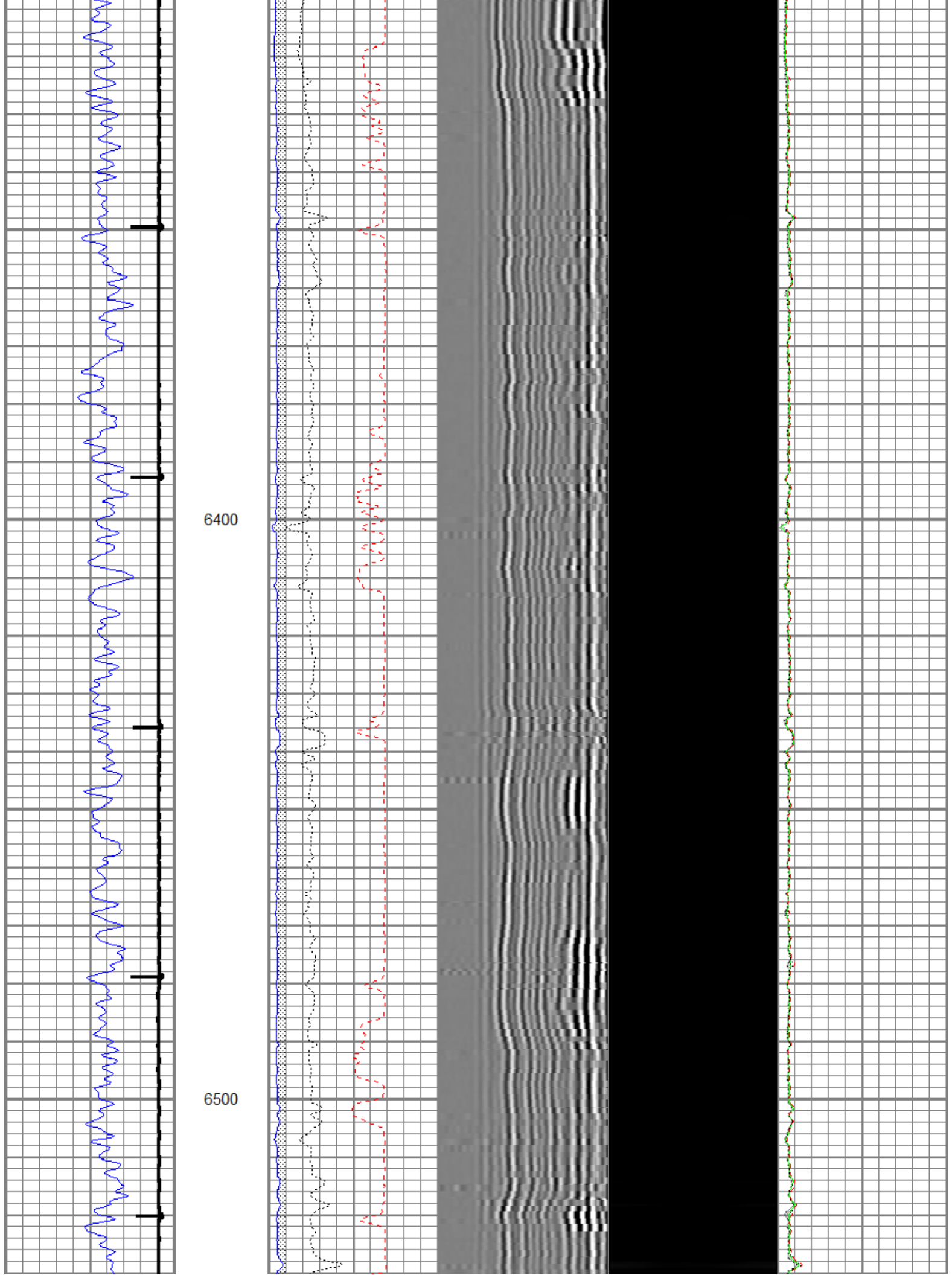


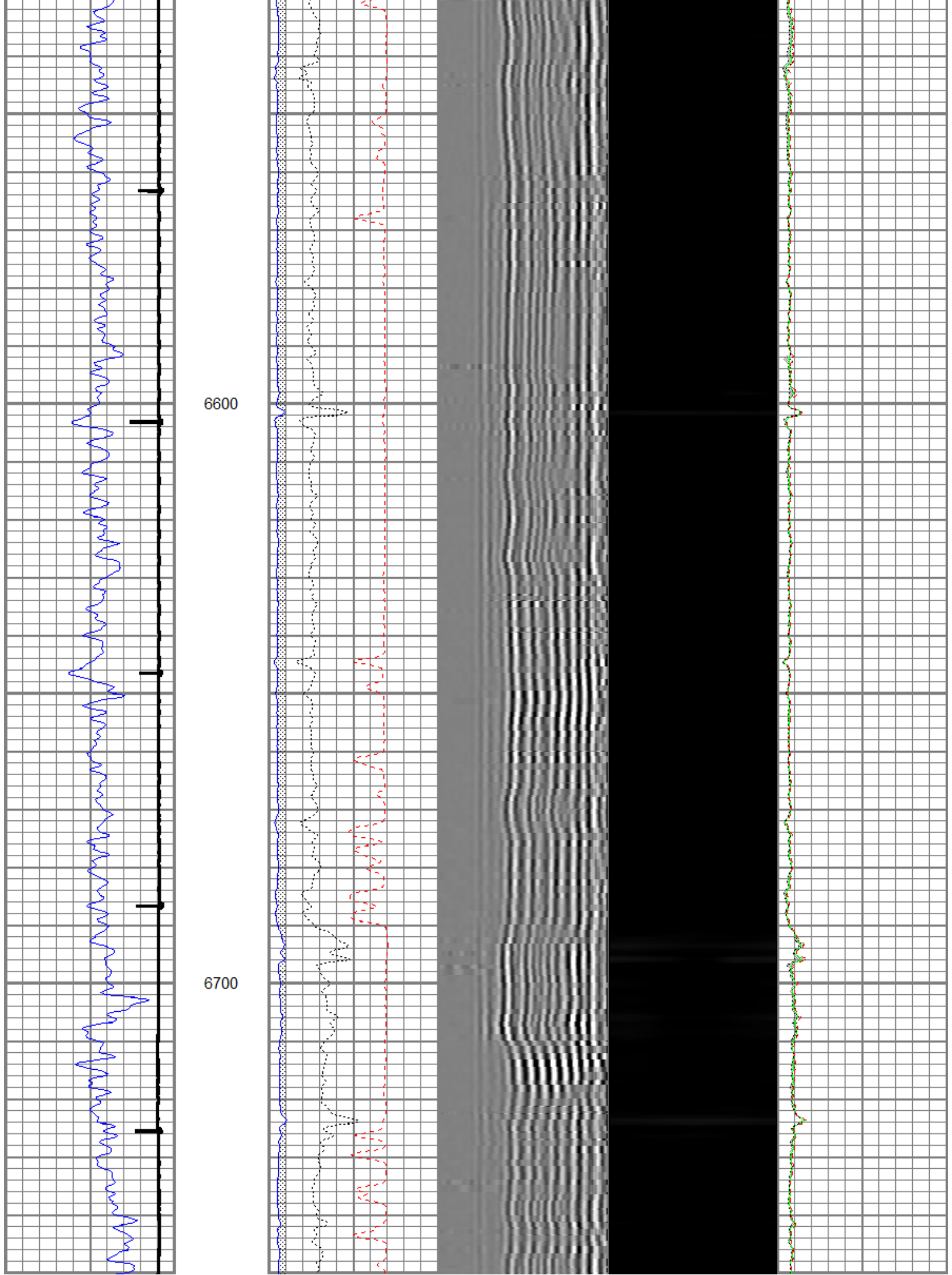


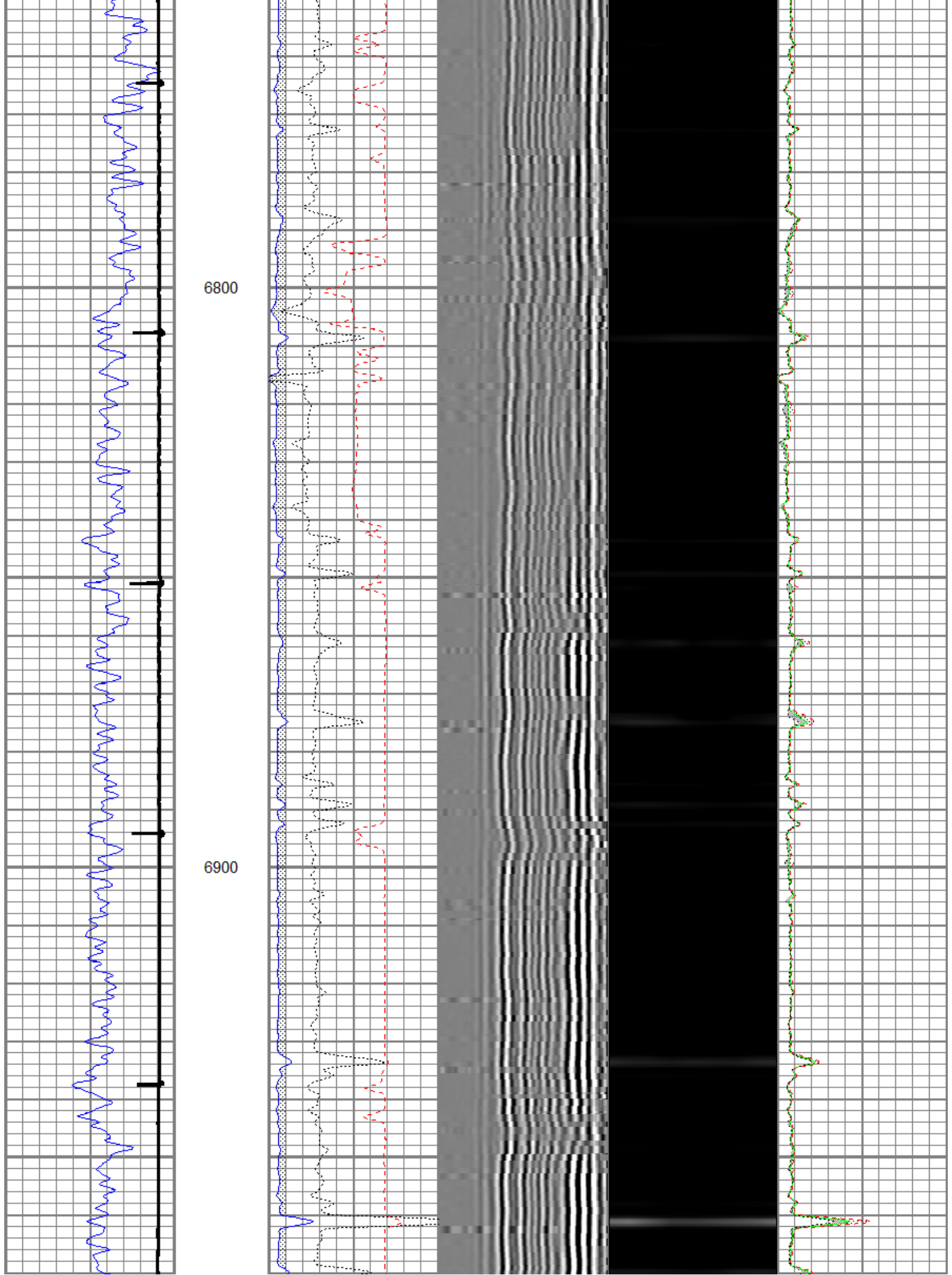


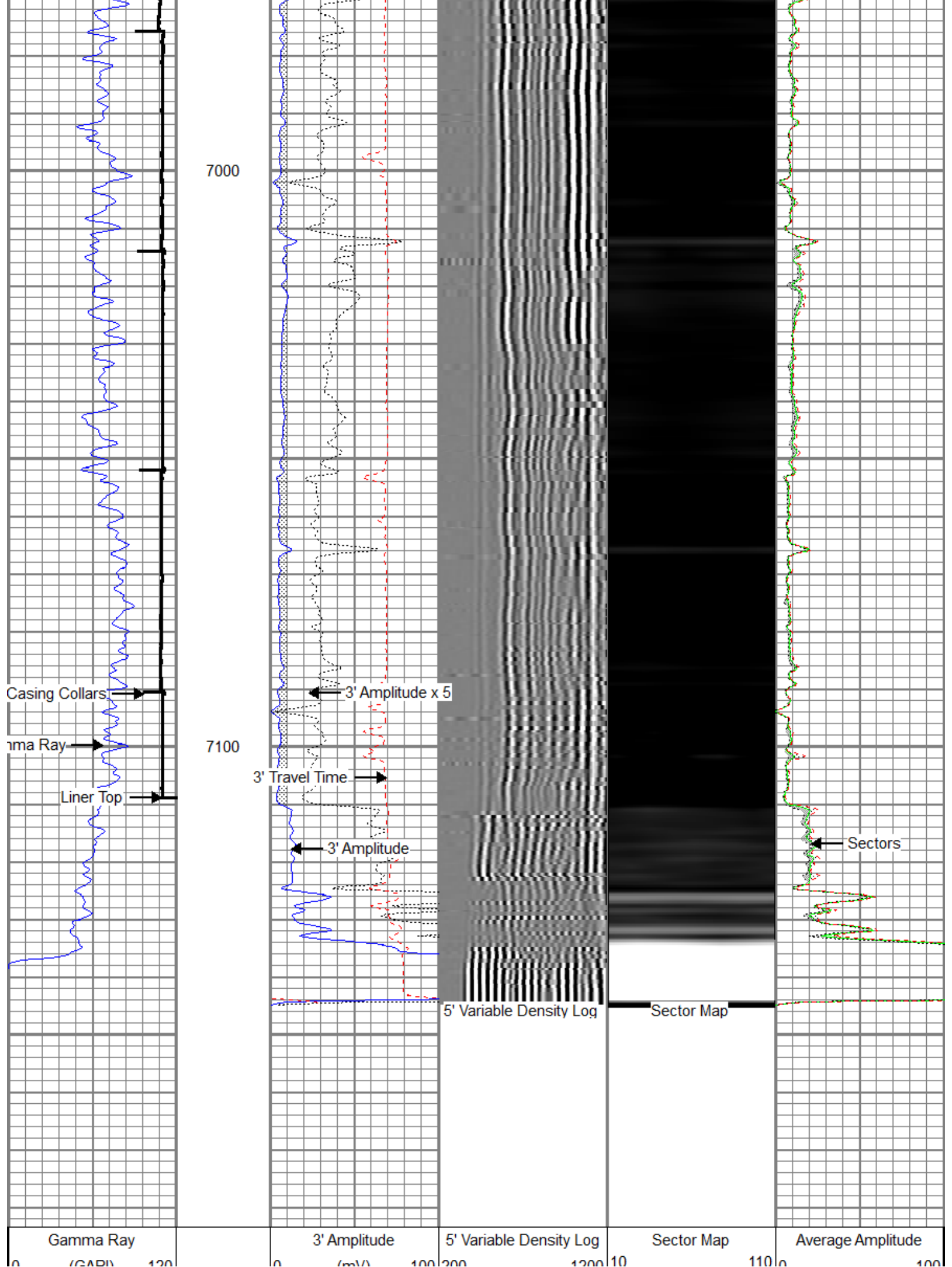










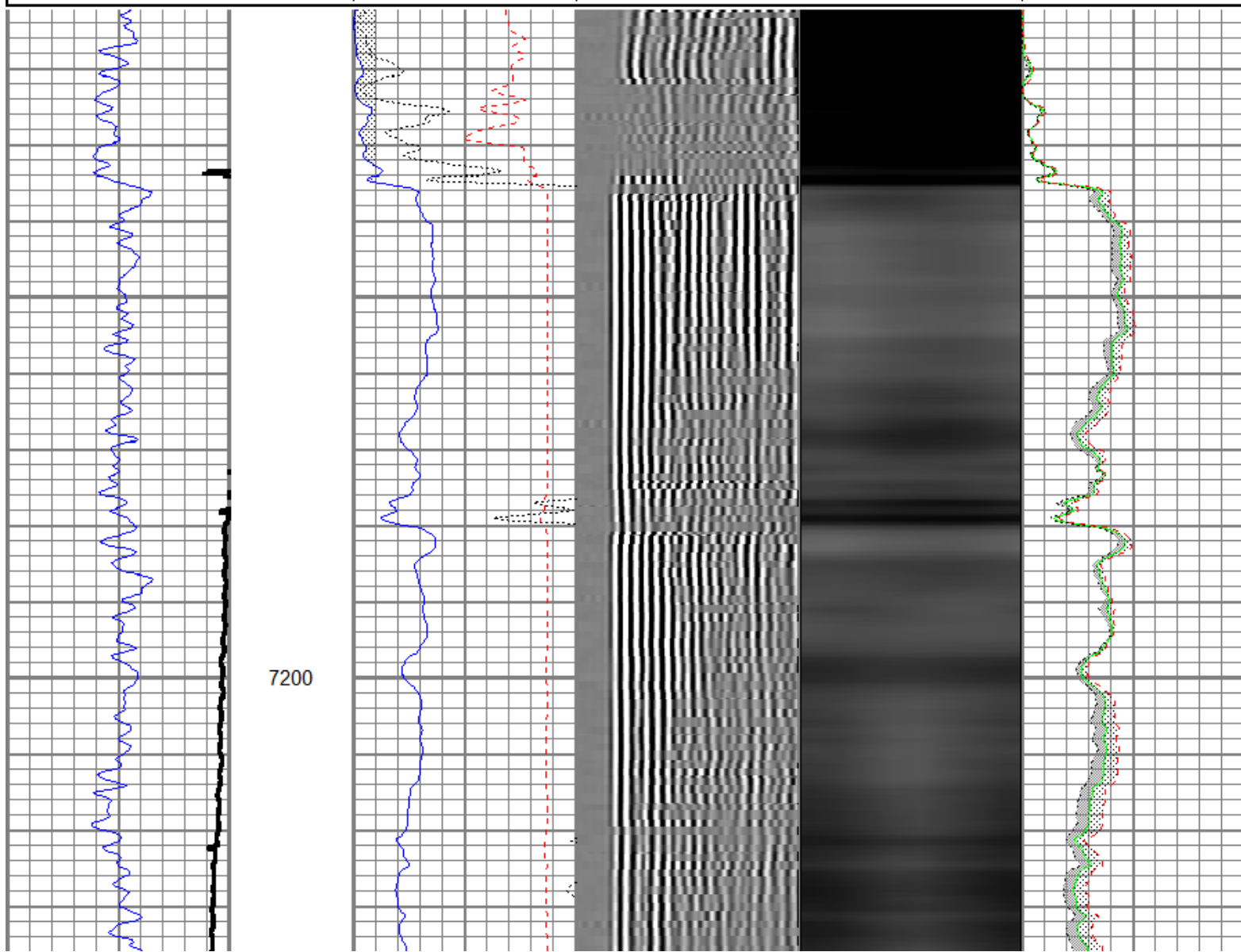


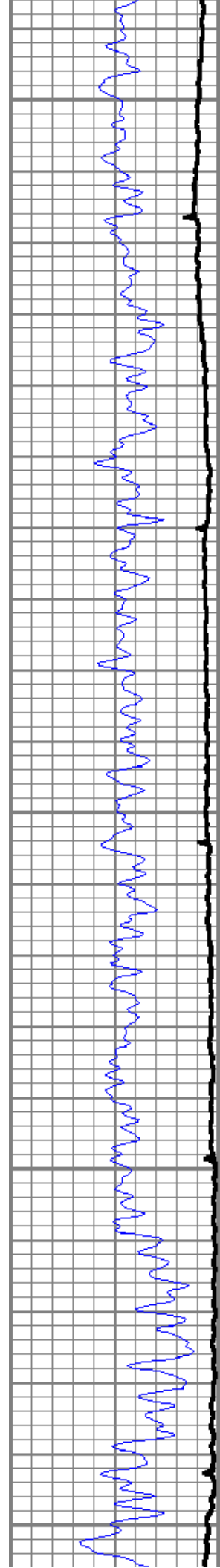
0 (GAPI) 120	0 3' Amplitude x 5 (mV) 100 200	0 1200 2400	0 100
Collar Locator	0 (mV) 20		Minimum Amplitude
	3' Travel Time		0 100
	650 (usec) 150		Maximum Amplitude
			0 100

FMC Technologies	Main Pass 4.5"
	Logged with 2800 PSI Surface Induced Pressure

Database File: anadarko_grenemeyer 36c-3hz_rcbl cil_2-apr-2014.db
 Dataset Pathname: main4.5
 Presentation Format: rbt007
 Dataset Creation: Wed Apr 02 09:30:03 2014 by Log Sondex V7.03
 Charted by: Depth in Feet scaled 1:240

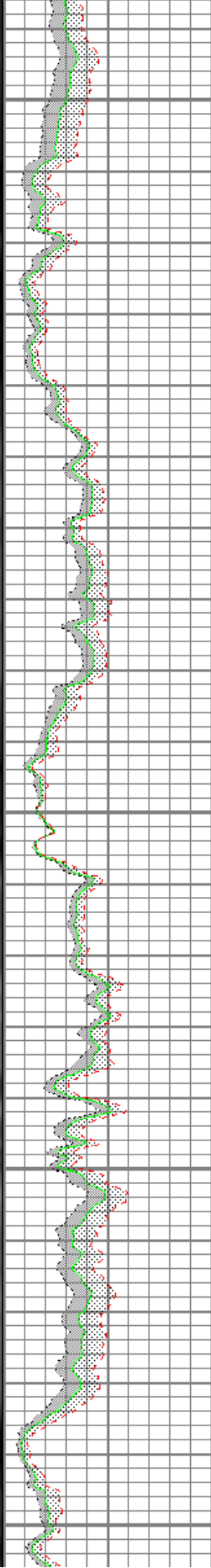
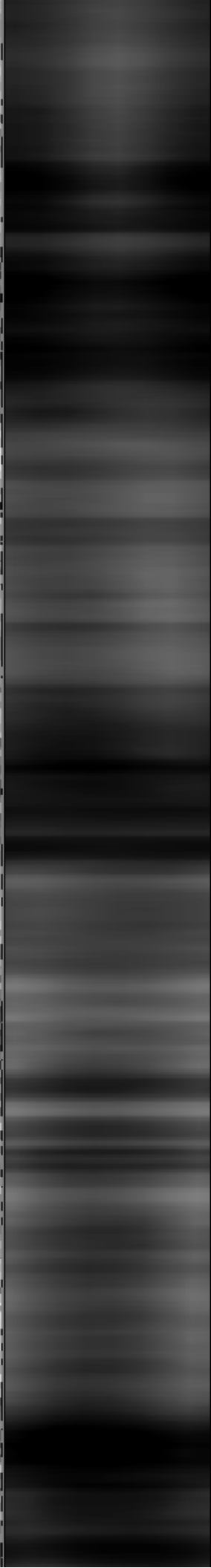
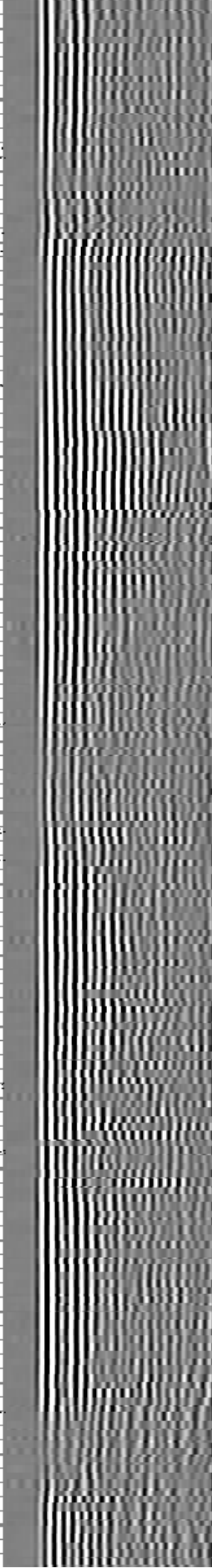
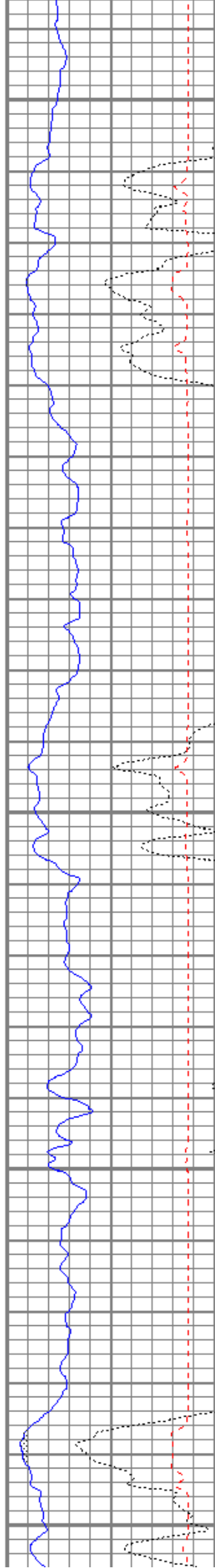
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200	10 110	0 100
Collar Locator	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
	3' Travel Time			Maximum Amplitude
	650 (usec) 150			0 100

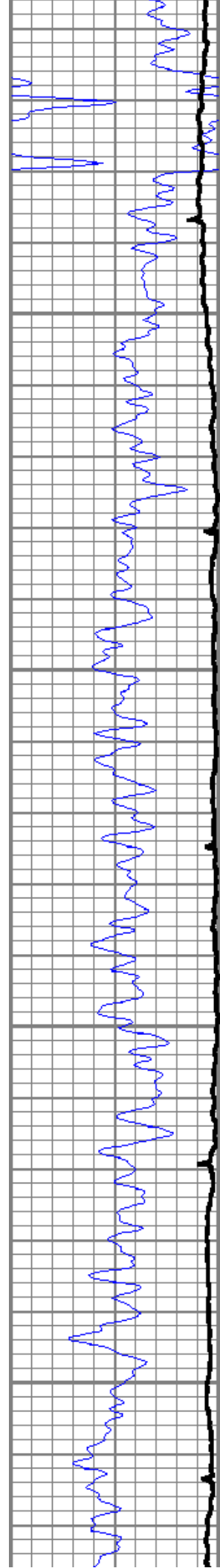




7300

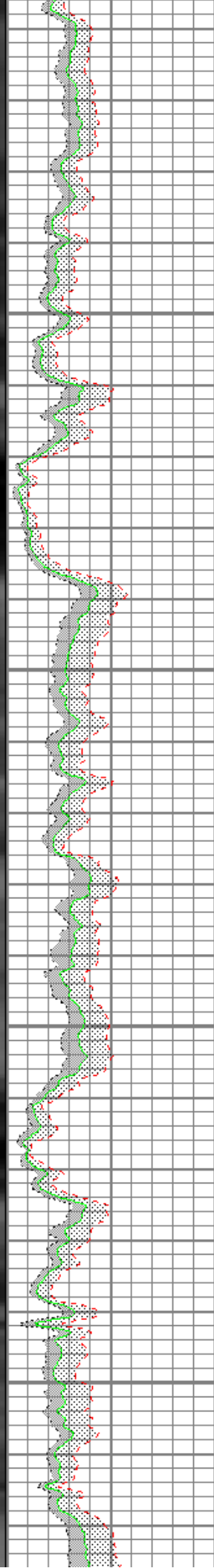
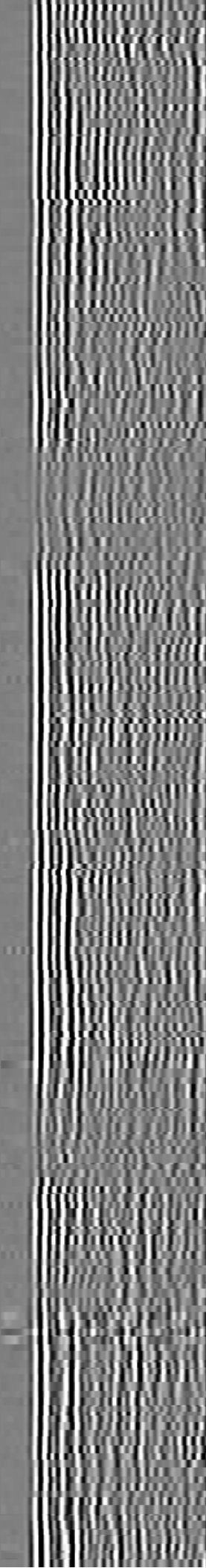
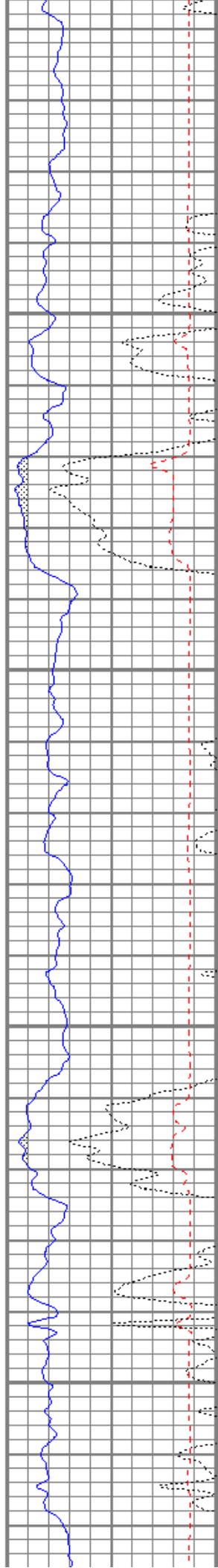
7400

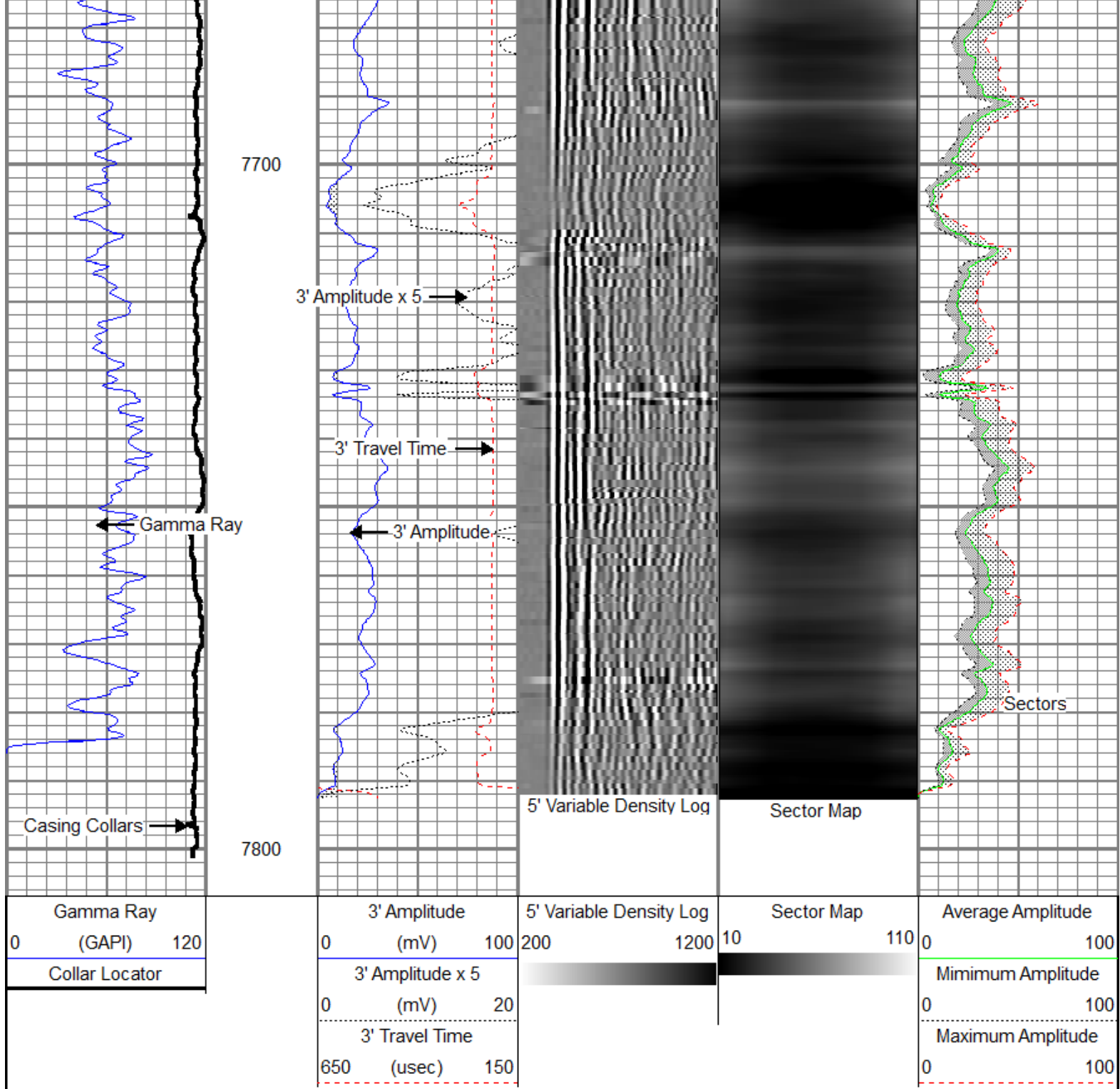




7500

7600

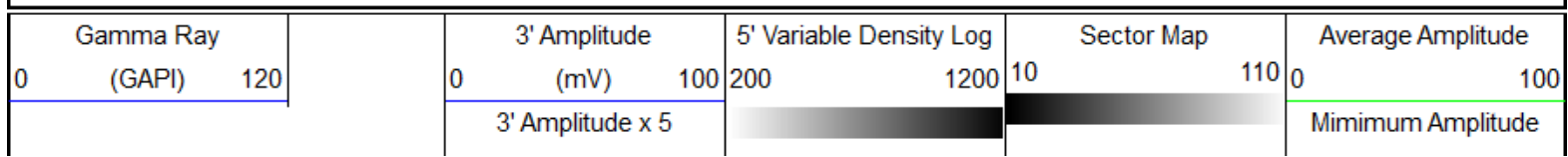




Repeat Pass

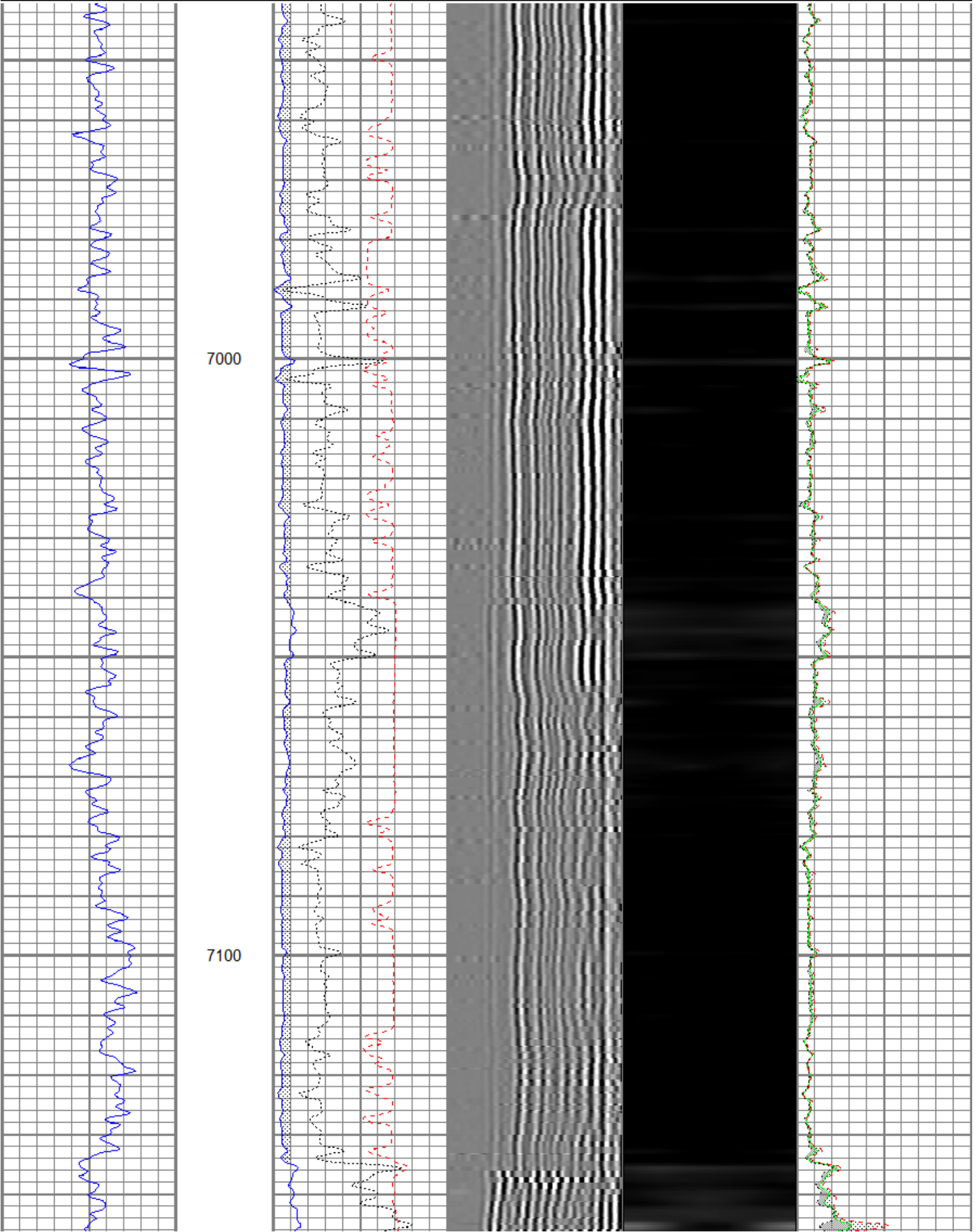
Logged With 2800 PSI At Surface

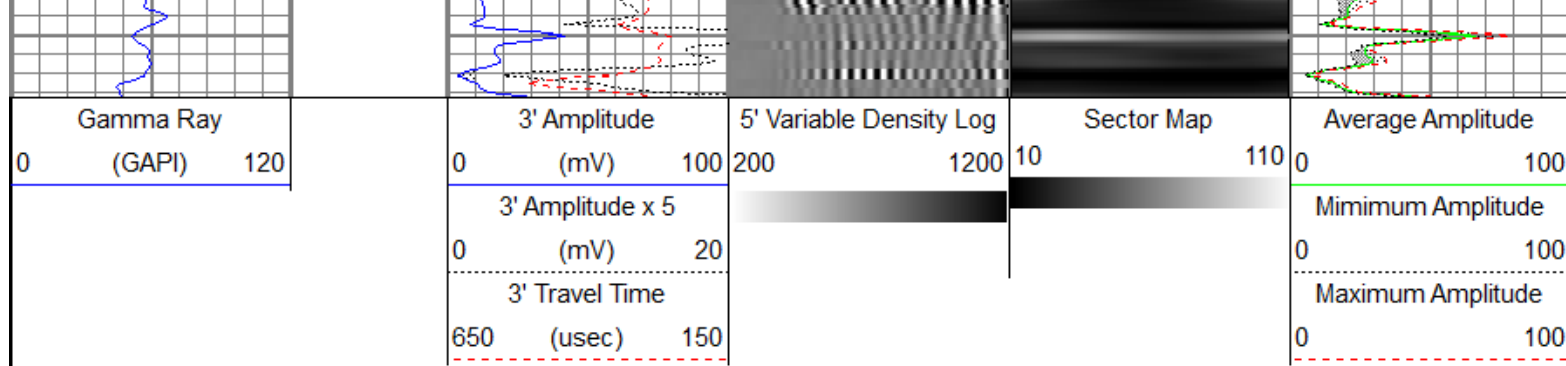
Database File: anadarko_grenemeyer 36c-3hz_rcbl cil_2-apr-2014.db
 Dataset Pathname: repeat
 Presentation Format: rbt007
 Dataset Creation: Wed Apr 02 08:17:56 2014 by Log Sondex V7.03
 Charted by: Depth in Feet scaled 1:240



0	(mV)	20
3' Travel Time		
650	(usec)	150

0	100
Maximum Amplitude	
0	100





Calibration Report

Database File: anadarko_grenemeyer 36c-3hz_rcbl cil_2-apr-2014.db
 Dataset Pathname: postal
 Dataset Creation: Wed Apr 02 13:46:03 2014 by Log Sondex V7.03

Multi-finger Imaging Tool Calibration Report

Serial Number: 10012912
 Number of Fingers: 40
 Tool Model: 027

Inclinometer Calibration Report

Performed: Mon Jul 15 09:39:36 2013
 Calibration Angle: 45

	Inc X	Inc Y
Vertical:	1968	1974
Finger 1 up:	1740	1744
Finger 31 up:	2215	1741
Finger 21 up:	2205	2224
Finger 11 up:	1731	2217
Sensitivity ratio:	0.992868	
X-axis angle:	134.307	
Deviation const.:	335.589	

Finger Calibration Report

Performed: Wed Apr 02 07:25:54 2014

Ring size:	4	5	6	7
(in)	Sens	Sens	Sens	Sens
Finger 01:	1116	373.0	1489	380.0
Finger 02:	1116	377.0	1493	392.0
Finger 03:	1065	380.0	1445	401.0
Finger 04:	1091	367.0	1458	386.0
Finger 05:	1097	379.0	1476	394.0
Finger 06:	1111	378.0	1489	394.0
Finger 07:	1074	372.0	1446	394.0
Finger 08:	1098	367.0	1465	388.0
Finger 09:	1105	369.0	1474	388.0
Finger 10:	1088	368.0	1456	388.0
Finger 11:	1113	365.0	1478	387.0
Finger 12:	1099	358.0	1457	387.0
Finger 13:	1125	359.0	1484	384.0
Finger 14:	1116	368.0	1484	393.0
Finger 15:X	1034	365.0	1399	403.0
Finger 16:X	1049	364.0	1413	402.0
Finger 17:	1046	365.0	1411	401.0
Finger 18:X	1120	356.0	1476	387.0
Finger 19:	1066	354.0	1420	391.0
Finger 20:	1044	358.0	1402	402.0
Finger 21:	1073	367.0	1440	404.0
Finger 22:X	1039	363.0	1402	404.0
Finger 23:	1001	365.0	1366	411.0
Finger 24:	1083	366.0	1449	392.0
Finger 25:	1025	379.0	1404	414.0
Finger 26:	1132	359.0	1491	381.0

Finger 27:	1058	373.0	1431	396.0	1827	411.0	2238
Finger 28:	1102	366.0	1468	387.0	1855	399.0	2254
Finger 29:	1017	374.0	1391	408.0	1799	424.0	2223
Finger 30:	1068	373.0	1441	399.0	1840	411.0	2251
Finger 31:	1085	372.0	1457	394.0	1851	406.0	2257
Finger 32:	1052	382.0	1434	405.0	1839	419.0	2258
Finger 33:	1144	376.0	1520	377.0	1897	383.0	2280
Finger 34:	1125	375.0	1500	386.0	1886	404.0	2290
Finger 35:	1046	388.0	1434	413.0	1847	432.0	2279
Finger 36:	1058	377.0	1435	397.0	1832	419.0	2251
Finger 37:	1129	386.0	1515	391.0	1906	412.0	2318
Finger 38:	1118	375.0	1493	382.0	1875	397.0	2272
Finger 39:	1140	370.0	1510	380.0	1890	397.0	2287
Finger 40:	1073	378.0	1451	392.0	1843	419.0	2262

Post Survey Calibration Check

Performed:

Wed Apr 02 13:45:35 2014

Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	3.996	-0.002	4.989	-0.005	5.995	-0.003	6.990	-0.005
Finger 02:	4.006	0.003	5.011	0.005	5.988	-0.006	6.996	-0.002
Finger 03:	3.995	-0.002	4.989	-0.006	5.996	-0.002	6.987	-0.006
Finger 04:	4.000	0.000	4.994	-0.003	5.997	-0.001	6.996	-0.002
Finger 05:	4.009	0.005	5.000	0.000	6.006	0.003	6.997	-0.001
Finger 06:	4.008	0.004	5.001	0.001	6.005	0.003	6.999	-0.001
Finger 07:	4.004	0.002	4.992	-0.004	5.999	-0.000	6.999	-0.001
Finger 08:	4.013	0.006	4.996	-0.002	5.999	-0.000	7.001	0.001
Finger 09:	4.015	0.008	5.006	0.003	6.011	0.005	7.011	0.005
Finger 10:	4.030	0.015	5.007	0.004	6.010	0.005	7.009	0.004
Finger 11:	4.017	0.009	5.010	0.005	6.014	0.007	7.017	0.009
Finger 12:	4.016	0.008	5.012	0.006	6.016	0.008	7.023	0.011
Finger 13:	4.014	0.007	5.010	0.005	6.014	0.007	7.022	0.011
Finger 14:	4.018	0.009	5.009	0.005	6.013	0.006	7.013	0.007
Finger 15:	-----	-----	-----	-----	-----	-----	-----	-----
Finger 16:	-----	-----	-----	-----	-----	-----	-----	-----
Finger 17:	4.002	0.001	4.999	-0.000	6.003	0.001	7.001	0.000
Finger 18:	-----	-----	-----	-----	-----	-----	-----	-----
Finger 19:	4.003	0.002	4.997	-0.001	6.002	0.001	6.995	-0.003
Finger 20:	4.017	0.009	5.018	0.009	6.013	0.006	7.016	0.008
Finger 21:	3.990	-0.005	4.985	-0.007	5.984	-0.008	6.983	-0.008
Finger 22:	-----	-----	-----	-----	-----	-----	-----	-----
Finger 23:	4.020	0.010	5.021	0.010	6.028	0.014	7.029	0.014
Finger 24:	4.005	0.002	5.013	0.007	6.017	0.008	7.019	0.010
Finger 25:	4.041	0.020	5.012	0.006	6.015	0.008	7.017	0.008
Finger 26:	4.013	0.006	5.012	0.006	6.019	0.009	7.018	0.009
Finger 27:	4.017	0.009	5.000	0.000	6.014	0.007	7.013	0.007
Finger 28:	4.020	0.010	5.012	0.006	6.013	0.006	7.011	0.005
Finger 29:	4.018	0.009	5.010	0.005	6.006	0.003	7.006	0.003
Finger 30:	4.006	0.003	5.001	0.000	6.001	0.000	7.003	0.002
Finger 31:	4.013	0.007	5.009	0.004	6.009	0.004	7.007	0.004
Finger 32:	4.001	0.001	4.989	-0.005	5.990	-0.005	6.990	-0.005
Finger 33:	4.000	-0.000	4.990	-0.005	5.995	-0.002	6.997	-0.001
Finger 34:	4.007	0.003	4.998	-0.001	6.009	0.004	7.004	0.002
Finger 35:	3.997	-0.001	4.986	-0.007	5.987	-0.007	6.988	-0.006
Finger 36:	3.995	-0.003	4.989	-0.005	5.992	-0.004	7.001	0.000
Finger 37:	4.000	-0.000	4.996	-0.002	6.000	-0.000	7.006	0.003
Finger 38:	3.975	-0.013	4.973	-0.014	5.977	-0.012	6.974	-0.013
Finger 39:	3.987	-0.006	4.979	-0.010	5.982	-0.009	6.980	-0.010
Finger 40:	3.995	-0.003	4.989	-0.006	5.996	-0.002	6.989	-0.005
Average:	4.007	0.004	5.000	0.000	6.003	0.002	7.003	0.001

Segmented Cement Bond Log Calibration Report

Serial Number: 10012639in7
Tool Model: 004

Calibration Casing Diameter: 5.500 in
Calibration Depth: 0.000 ft

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.001	0.640	0.800	71.921	111.002	0.869
5FT	-0.005	0.686	0.800	71.921	102.930	1.299
S1	-0.001	0.680	0.000	100.000	146.818	0.174
S2	-0.002	0.621	0.000	100.000	160.524	0.266
S3	-0.001	0.582	0.000	100.000	171.478	0.203
S4	-0.002	0.579	0.000	100.000	172.076	0.363
S5	-0.001	0.613	0.000	100.000	162.870	0.103
S6	-0.001	0.667	0.000	100.000	149.722	0.079
S7	-0.001	0.709	0.000	100.000	140.730	0.155
S8	-0.001	0.716	0.000	100.000	139.424	0.179

Gamma Ray Calibration Report

Serial Number:	10013899	
Tool Model:	020	
Performed:	Sun Jun 13 13:33:21 1993	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps



Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Grenemyer 36C-3HZ
Field	Wattenberg
County	Weld
State	Colorado